L Number	Hits	Search Text	DB	Time stamp
1	1996	(435/189,190,191;424/94.4).ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/01/11 06:46
2	1779	"1.1.3.22" or "1.2.3.2" or (xanthine near2 (oxidase or oxidoreductase)) or (hypoxanthine adj oxidase) or schardinger	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/01/11 06:47
3	82	((435/189,190,191;424/94.4).ccls.) and ("1.1.3.22" or "1.2.3.2" or (xanthine near2 (oxidase or oxidoreductase)) or (hypoxanthine adj oxidase) or schardinger)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/01/11 06:46
4	1813	"1.1.3.22" or "1.2.3.2" or (xanthine near2 (oxidase or oxidoreductase or dehydrogenase)) or (hypoxanthine adj oxidase) or schardinger	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/01/11 06:48
5	84	((435/189,190,191;424/94.4).ccls.) and ("1.1.3.22" or "1.2.3.2" or (xanthine near2 (oxidase or oxidoreductase or dehydrogenase)) or (hypoxanthine adj oxidase) or schardinger)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/01/11 06:48

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NEWS 24	Nov 30	Files VETU and VETB to have open access
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NEWS 26	Dec 10	DGENE BLAST Homology Search
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NEWS 29	Dec 17	New fields for DPCI
NEWS 30	Dec 19	CAS Roles modified
NEWS 31	Dec 19	1907-1946 data and page images added to CA and CAplus

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FULL ESTIMATED COST 0.30 0.30

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http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> e xanthine oxidase
E1 2 XANTHINC/BI
E2 2172 XANTHINE/BI
E3 0 --> XANTHINE OXIDASE/BI
E4 1 XANTHINE:XANTHINE/BI
E5 1 XANTHINECARBOXYL/BI
E6 1 XANTHINECARBOXYLIC/BI
E7 1 XANTHINEDEOXY/BI

```
E8            1      XANTHINEDEOXYRIBO/BI
E9            1      XANTHINEDEOXYRIBOSIDE/BI
E10          18      XANTHINEOL/BI
E11          18      XANTHINEOLYTICA/BI
E12           1      XANTHINEPROPIONIC/BI

=> e xanthine oxidase/cn
E1            1      XANTHINE DEHYDROGENASE/OXIDASE (SINORHIZOBIUM MELILOTI
MEGAP
                     LASMID PRMESU47B GENE XDHA N-TERMINAL FRAGMENT)/CN
E2            1      XANTHINE N3-OXIDE/CN
E3            1 --> XANTHINE OXIDASE/CN
E4            1      XANTHINE OXIDOREDUCTASE/CN
E5            1      XANTHINE PERMEASE (BACILLUS SUBTILIS GENE PBUX)/CN
E6            1      XANTHINE PERMEASE (CLOSTRIDIUM ACETOBUTYLICUM STRAIN ATCC
82
                     4 GENE CAC0872)/CN
E7            1      XANTHINE PERMEASE (DEINOCOCCUS RADIODURANS STRAIN R1 GENE
DR
                     A0176)/CN
E8            1      XANTHINE PERMEASE (LACTOCOCCUS LACTIS LACTIS STRAIN IL1403
G
                     ENE PBUX)/CN
E9            1      XANTHINE PERMEASE (STAPHYLOCOCCUS AUREUS STRAIN MU50 GENE
PB
                     UX)/CN
E10           1      XANTHINE PERMEASE (STREPTOCOCCUS PNEUMONIAE STRAIN TIGR4
GEN
                     E SP1848)/CN
E11           1      XANTHINE PHOSPHORIBOSYLTRANSFERASE/CN
E12           1      XANTHINE PHOSPHORIBOSYLTRANSFERASE (BACILLUS HALODURANS
STRA
                     IN C-125 GENE BH1514)/CN

=> s e3
L1            1 "XANTHINE OXIDASE"/CN

=> d l1

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN   9002-17-9  REGISTRY
CN   Oxidase, xanthine (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   E.C. 1.1.3.22
CN   E.C. 1.2.3.2
CN   Hypoxanthine oxidase
CN   Hypoxanthine-xanthine oxidase
CN   Schardinger enzyme
CN   Xanthine oxidase
CN   Xanthine oxidoreductase
CN   Xanthine:xanthine oxidase
MF   Unspecified
CI   MAN
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,
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       MSDS-OHS, NAPRALERT, NIOSHTIC, PROMT, RTECS*, TOXCENTER, TOXLIT,
       USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   EINECS**, TSCA**
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87 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
4064 REFERENCES IN FILE CAPLUS (1967 TO DATE)

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=> s l1
'CN' IS NOT A VALID FIELD CODE
L2 14163 L1

=> s (xanthine (2a) (oxidase or oxidoreductase or dehydrogenase)) or
(hypoxanthine (w) oxidase)
11 FILES SEARCHED...
L3 34957 (XANTHINE (2A) (OXIDASE OR OXIDOREDUCTASE OR DEHYDROGENASE))
OR

(HYPOXANTHINE (W) OXIDASE)

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=> s l1 or l3
<------User Break------>
u
SEARCH ENDED BY USER

=> s l2 or l3
L4       35140 L2 OR L3

=> s addit? or supplement? or formulat?
   6 FILES SEARCHED...
L5     6765924 ADDIT? OR SUPPLEMENT? OR FORMULAT?

=> s l4 and l5
L6        6137 L4 AND L5

=> s l4 same l5
MISSING OPERATOR L4 SAME
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s l4 (p) l5
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L33 (P) L47'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L37 (P) L51'
L7        5778 L4 (P) L5

=> s l4 (l) l5
L8        5791 L4 (L) L5

=> s l4 (w) l5
L9          14 L4 (W) L5

=> s l4 (s) l5
L10       4501 L4 (S) L5

=> s l4 (5a) l5
L11        784 L4 (5A) L5

=> s l4 (3a) l5
L12        553 L4 (3A) L5

=> s l4 (2a) l5
L13        469 L4 (2A) L5

=> s buttermilk
L14       6630 BUTTERMILK

=> s l8 and l15
L15 NOT FOUND
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=> s l8 and l14
L15         21 L8 AND L14

=> s l6 and l14
L16         21 L6 AND L14
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=> dup rem l16
PROCESSING COMPLETED FOR L16
L17 14 DUP REM L16 (7 DUPLICATES REMOVED)

=> dup rem l12
PROCESSING COMPLETED FOR L12
L18 208 DUP REM L12 (345 DUPLICATES REMOVED)

=> d l17 bib abs 1-
YOU HAVE REQUESTED DATA FROM 14 ANSWERS - CONTINUE? Y/(N):y

L17 ANSWER 1 OF 14 BIOTECHDS COPYRIGHT 2002 DERWENT INFORMATION LTD
AN 2001-12404 BIOTECHDS
TI Miniaturized amperometric biosensor based on **xanthine-oxidase** for monitoring hypoxanthine in cell culture media; **xanthine-oxidase** immobilization on carbon fiber micro-electrode using a composite film of Nafion and electropolymerized phenol
AU Mao L; Xu F; Jin L
CS Tokyo-Inst.Technol.; Univ.East-China-Normal
LO Department of Electronic Chemistry, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology, 4259 Nagatsuta, Midori-ku, Yokohama 226-8502, Japan.
Email: mao@chem.titech.ac.jp
SO Anal.Biochem.; (2001) 292, 1, 94-101
CODEN: ANBCA2 ISSN: 0003-2697
DT Journal
LA English
AN 2001-12404 BIOTECHDS
AB Miniaturized amperometric hypoxanthine biosensors were based on **buttermilk xanthine-oxidase** (XO, EC-1.1.3.22) immobilized on carbon fiber microelectrodes (CFMEs) using a composite film of Nafion and electropolymerized phenol (PPh). Nafion provided a hydrophobic, enzyme-favored environment and electrostatic interaction with XO, which was dispersed in Nafion film by immersing the Nafion-coated CFMEs in XO solution for 5 hr. Hypoxanthine was measured by the **addition** of enzymatic reaction products, hydrogen peroxide and uric acid at +0.60 V (vs Ag/AgCl). The use of Nafion and PPh as support for XO immobilization yielded enhanced specificity, sensitivity and linearity toward hypoxanthine. A dynamic linear range of 5.0 uM to 1.8 mM was obtained with a calculated detection limit of 1.5 uM and a sensitivity of 3.144 nA/mM. The measurement was virtually interference-free from easily oxidizable species such as uric acid, ascorbic acid, physiological levels of neurotransmitters, and their metabolites. The biosensor was used to monitor hypoxanthine accumulation in myocardial cell culture medium. The level of extracellular hypoxanthine increased with ischemic tolerance. (43 ref)

L17 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
AN 2000:161082 CAPLUS
DN 132:185469
TI Ingestible compositions comprising antibacterial agents
IN Blake, David Russell; Stevens, Clifford Robert; Eisenthal, Robert; Harrison, Roger; Millar, Timothy Mark; Edwards, Rachel
PA The University of Bath, UK
SO PCT Int. Appl., 42 pp.

CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000011965	A2	20000309	WO 1999-GB2845	19990827
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9955264	A1	20000321	AU 1999-55264	19990827
EP 1143808	A2	20011017	EP 1999-941769	19990827
EP 1143808	A3	20011128		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI GB 1998-18913	A	19980828		
GB 1998-27243	A	19981210		
WO 1999-GB2845	W	19990827		

AB A **formulation** for use as a bactericidal agent in the human or animal digestive system includes **xanthine oxidoreductase** . The **formulation** may esp. be in the form of a formula feed **formulation** or enteral feed **formulation** for administration to a human or animal. The **formulation** is capable of functioning as a "natural antibiotic" to prevent or reduce bacterial infection within the gut, esp. the neonatal gut.

L17 ANSWER 3 OF 14 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 2
AN 1995:493736 BIOSIS
DN PREV199598508036
TI Metabolism of (14C)1,3-dinitrobenzene by rat small intestinal mucosa in vitro.
AU Adams, Paula C.; Rickert, Douglas E.
CS SmithKline Beecham Pharmaceuticals, Res. Development Div., 709 Swedeland Road, Mail Code UW2720, King of Prussia, PA 19406-0939 USA
SO Drug Metabolism and Disposition, (1995) Vol. 23, No. 9, pp. 982-987. ISSN: 0090-9556.
DT Article
LA English
AB The small intestine can metabolize a variety of substances and can play a role in the presystemic clearance of ingested compounds. Relatively little is known about the ability of small intestine to catalyze the presystemic reductive metabolism of xenobiotics. 1,3-Dinitrobenzene (1,3-DNB), which is known to undergo reductive biotransformation in an intact, oxygenated isolated perfused intestinal preparation, was used as a model substrate for reductive enzymes of the small intestine of the rat. Subcellular fractions from duodenal, jejunal, and ileal regions of rat small intestinal mucosa were used to characterize the enzyme source(s) of those reductive reactions of 1,3-DNB that are relevant in the oxygenated intestinal tissue. 1,3-DNB was reduced to 3-nitroaniline (3-NA) by cytosol from duodenum and jejunum. The rate of reduction was 2 times faster when incubations contained duodenal rather than jejunal cytosol. Jejunal cytosol-catalyzed reduction of 1,3-DNB was supported by hypoxanthine,

NADPH, or NADH. Duodenal microsomes catalyzed the reduction of 1,3-DNB to 3-NA in the presence of **supplemental** NADPH or NADH; however, the reaction was very slow. Jejunal microsomes, ileal microsomes, and ileal cytosol failed to catalyze the reduction of 1,3-DNB. Studies with chemical inhibitors suggested possible roles for DT diaphorase, glutathione reductase, or **xanthine oxidase** in the jejunal cytosol-catalyzed reaction. Purified, commercially available **xanthine oxidase** (from **buttermilk**) catalyzed the reduction of 1,3-DNB to 3-NA when **supplemented** with NADH or hypoxanthine.

L17 ANSWER 4 OF 14 BIOTECHDS COPYRIGHT 2002 DERWENT INFORMATION LTD
AN 1996-04651 BIOTECHDS
TI A simple way to (+/-)-dihydroactinidiolide from beta-ionone related to the enzymic co-oxidation of beta-carotene in aqueous solution; using **buttermilk xanthine-oxidase** for aroma production
AU Bosser A; Paplorey E; *Belin J M
CS Metayer-Aromat.; Univ.Burgundy
LO Laboratoire de Biotechnologie, Universite de Bourgogne, ENS.BANA, Campus Universitaire Montmuzard, 1 Esplanade Erasme, F-21000 Dijon, France.
SO Biotechnol.Prog.; (1995) 11, 6, 689-92
CODEN: BIPRET ISSN: 8756-7938
DT Journal
LA English
AN 1996-04651 BIOTECHDS
AB Co-oxidation of beta-carotene by **buttermilk xanthine-oxidase** grade-III (EC-1.1.3.22) in aq. solution led to beta-ionone, epoxy-5,6-beta-ionone and dihydroactinidiolide (DHA). Pathways between ionone derivatives and respective places of each volatile compound in enzymatic bleaching of beta-carotene were investigated. In **addition**, a simple method for production of DHA from commercially available beta-ionone was developed. Co-oxidation was carried out in a 2 l reactor at 37 deg with agitation at 750 rpm in a total reaction volume of 300 ml (with 25 mg/l beta-carotene or 25 mg/l epoxy-5,6-beta-ionone, 48 mM acetaldehyde, 0.02710 U/ml **xanthine-oxidase**, 0.1 mM EDTA and 0.05 M phosphate buffer, pH 8.0). Samples were extracted with ether and concentrated under reduced pressure, followed by analysis by GC and GC-MS. Co-oxidation of beta-carotene at 37 deg followed by heating of the products to 80 deg for 12 hr could be used for commercial production of DHA, which is useful as a black tea aroma compound. (25 ref)

L17 ANSWER 5 OF 14 CABA COPYRIGHT 2002 CABI
AN 91:1970 CABA
DN 910443626
TI Hydroxyl radical is not a product of the reaction of **xanthine oxidase** and **xanthine**. The confounding problem of adventitious iron bound to **xanthine oxidase**
AU Britigan, B. E.; Pou, S.; Rosen, G. M.; Lilleg, D. M.; Buettner, G. R.
CS University of Iowa College of Medicine, Iowa City, IA 52242, USA.
SO Journal of Biological Chemistry, (1990) Vol. 265, No. 29, pp. 17533-17538.
37 ref.
ISSN: 0021-9258
DT Journal
LA English

AB The reaction of **xanthine** and **xanthine oxidase** generates superoxide and hydrogen peroxide. In contrast to earlier work, recent spin trapping data suggested that hydroxyl radical may also be a product of this reaction. Determining if hydroxyl radical results directly from the **xanthine/xanthine oxidase** reaction is important for 1. interpreting experimental data in which this reaction is used as a model of oxidant stress and 2. understanding the pathogenesis of ischaemia/reperfusion injury. Consequently, the conditions required for hydroxyl radical generation during the oxidation of **xanthine** by **xanthine oxidase** were evaluated. Following the **addition** of some, but not all, commercial preparations of **xanthine oxidase** to a mixture of xanthine, deferoxamine, and either 5,5-dimethyl-1-pyrroline-N-oxide or a combination of alpha -phenyl-n-tert-butyl-nitrone and dimethyl sulphoxide, hydroxyl radical-derived spin adducts were detected. With other preparations, no evidence of hydroxyl radical formation was noted. **Xanthine oxidase** preparations that generated hydroxyl radical had greater iron associated with them, suggesting that adventitious iron was a possible contributing factor. Consistent with this hypothesis, **addition** of H2O2, in the absence of xanthine, to 'high iron' **xanthine oxidase** preparations generated hydroxyl radical. Substitution of a different iron chelator, diethylenetriaminepenta-acetic acid for deferoxamine, preincubation of high-iron **xanthine oxidase** preparations with chelating resin, or overnight dialysis of the enzyme against deferoxamine decreased or eliminated hydroxyl radical generation without altering the rate of superoxide production. Therefore, hydroxyl radical does not appear to be a product of the oxidation of **xanthine** by **xanthine oxidase**. However, commercial **xanthine oxidase** preparations may contain adventitious iron bound to the enzyme, which can catalyse hydroxyl radical formation from hydrogen peroxide. Commercial **xanthine oxidase** preparations derived from **buttermilk** were used.

L17 ANSWER 6 OF 14 CABA COPYRIGHT 2002 CABI
AN 87:61923 CABA
DN 870422849
TI Electronic probes of the mechanism of substrate oxidation by **buttermilk xanthine oxidase**: role of the active-site nucleophile in oxidation
AU Skibo, E. B.; Gilchrist, J. H.; Lee, C. H.
CS Dep. Chem., Arizona State Univ., Tempe, AZ 85287, USA.
SO Biochemistry, (1987) Vol. 26, No. 11, pp. 3032-3037. 30 ref.
DT Journal
LA English
AB Quinazolin-4(3H)-one derivatives substituted at the 6- and/or 7-position were studied as electronic probes of substrate oxidation by **buttermilk xanthine oxidase**. A Hammett plot was made for quinazoline-oxygen substrate activity. The concave downward nature of the plot indicated that the rate-determining step for oxidation changed when electron-withdrawing substituents were placed on the substrate. In **addition** the kinetic isotope effects obtained with 2-deuterio derivatives of the substrates indicated that oxidation involved nucleophile transfer to the C(2) centre with hydride transfer to the molybdenum centre, and that the formation of oxidized product is a 3-step

process, i.e., Michaelis complex formation, oxidation, and hydrolysis of the oxidized substrate-enzyme adduct. The role of the nucleophile in oxidation was to increase the electron density in the substrate and thereby facilitate hydride transfer. The study indicates that similar electronic probes may be designed to study other purine-utilizing enzymes possessing a dimensionally tolerant active site.

L17 ANSWER 7 OF 14 CANCERLIT
AN 88640976 CANCERLIT
DN 88640976
TI THE ROLE OF NONPROTEIN THIOLS IN ENZYMATIC REDUCTION OF 2-NITROIMIDAZOLES.
AU Wong K H
CS Tulane University.
SO Diss Abstr Int (Sci), (1987). Vol. 48, No. 5, pp. 1315.
ISSN: 0419-4217.
DT (THESIS)
FS ICDB
LA English
EM 198804
AB The preferential cytotoxicity of 2-nitroimidazoles (2-NIs) towards hypoxic cells arises from the reductive intermediates formed after reduction of the nitro group under a hypoxic environment. The cytotoxicity is enhanced by thiol-depleting agents such as N-ethylmaleimide (NEM) and diethylmaleate (DEM) and is reduced by the **addition** of nonprotein thiols (NPSH) such as glutathione (GSH) and cysteine. The role of thiol depleting agents and NPSH on the reduction of the nitro function has been studied qualitatively and quantitatively by utilizing high pressure liquid chromatographic (HPLC) methods. Rat hepatic cytosol and microsomes, **buttermilk xanthine oxidase** and sonicates of B16 melanoma cells were employed as sources of nitro reductases. **Addition** of NPSH caused an enhancement in the reduction of the nitro group of the 2-NIs, misonidazole and SR2508, under hypoxic conditions. The thiol-depleting agents, NEM and DEM, decreased the reduction of the nitro function and the inhibition was reversed by the **addition** of NPSH except in the case of hepatic microsomes. Both NEM and DEM attenuated the enhanced reduction observed after the **addition** of NPSH. A new 2-NI, 3-ethoxy-3-(2-nitroimidazol-1-yl)-1-propene (NBK50) was found to be selectively toxic towards hypoxic cells. NBK50 was designed to release acrolein, a toxic species, upon reductive bioactivation. NBK50 was found to deplete NPSH in B16 cells under oxic and hypoxic conditions but did not react chemically with GSH. The effects of NPSH in modulating the cytotoxicity of NBK50 may represent a balance between an increase in toxicity due to the release of acrolein after nitro reduction stimulated by NPSH and a decrease in toxicity due to the protective effect of NPSH. The paradox that the **addition** of NPSH enhanced the nitro reduction and yet decreased cytotoxicity may be explained by the fact that **addition** of NPSH facilitates the reduction of the nitro radical anion to other reduced intermediates that may be inactivated by NPSH. However, the depletion of NPSH that inhibits nitro reduction would be expected to allow the accumulation of the nitro radical anions which may be cytotoxic. (Abstract shortened with permission of author.) (Full text available from University Microfilms International, Ann Arbor, MI, as Order No: AAD87-15191)

L17 ANSWER 8 OF 14 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 3
AN 1986:396355 BIOSIS
DN BA82:81835
TI CONTAMINATION OF COMMERCIAL PREPARATIONS OF **XANTHINE OXIDASE** BY A CALCIUM-DEPENDENT PHOSPHOLIPASE A-2.
AU GAMACHE D A; KORNBERG L J; BARTOLF M; FRANSON R C
CS DEP. BIOCHEM., BOX 614, MED. COLLEGE VA., VA. COMMONWEALTH UNIV., RICHMOND, VA 23298, USA.
SO BIOCHIM BIOPHYS ACTA, (1986) 858 (1), 217-220.
CODEN: BBACAQ. ISSN: 0006-3002.
FS BA; OLD
LA English
AB Using [1-14C]oleate-labelled autoclaved Escherichia coli as substrate, we demonstrate that many, but not all, commercial preparations of **xanthine oxidase** contain phospholipase A2 activity as a contaminant. Phospholipase A2 activity (64.3-545.6 nmol phospholipid hydrolyzed per min per mg protein) was optimal in the neutral to alkaline pH range, was Ca2+-dependent, and was unaffected by the **addition** of xanthine. Phospholipase A2 activity was totally inhibited by 1.0 mM EDTA while radical production by **xanthine** plus **xanthine oxidase** was unaffected by EDTA. Even chromatographically purified **xanthine oxidase**. (Sigma Grade III) contained substantial phospholipase A2 activity (64.3 nmol/min per mg). Since the preparation of **xanthine oxidase** employs proteolytic digestion of milk or **buttermilk** by pancreatin, an extract of pancreas which is an organ rich in phospholipase A2 activity, we speculate that the contaminant phospholipase A2 is introduced by this treatment. Because **xanthine oxidase** is used extensively to study free radical-induced cell injury and membrane phospholipid alterations, the presence of a potent extracellular phospholipase A2 may have influenced previously published reports and such studies in the future should be interpreted with care.

L17 ANSWER 9 OF 14 CABA COPYRIGHT 2002 CABI
AN 86:1225 CABA
DN 860407834
TI Oxygen radical-induced erythrocyte hemolysis by neutrophils. Critical role of iron and lactoferrin
AU Vercellotti, G. M.; Asbeck, B. S. van; Jacob, H. S.
CS Univ. of Minnesota Med. Sch., Minneapolis, Minnesota 55455, USA.
SO Journal of Clinical Investigation, (1985) Vol. 76, No. 3, pp. 956-962. 38 ref.
ISSN: 0021-9738
DT Journal
LA English
AB Human neutrophils (PMN) stimulated with such chemotaxins as phorbol myristate acetate (PMA) destroy erythrocytes and other targets. Cytotoxicity depends on PMN-generated reactive oxygen metabolites. Using 51Cr-labelled erythrocytes as targets, various reactive O2-generating systems were tested for ability to lyse erythrocytes and oxidize haemoglobin to methaemoglobin. PMA-activated PMN or **buttermilk xanthine oxidase** plus acetaldehyde were added to target erythrocytes in amounts that provided similar amounts of superoxide. PMN lysed 68.3 plus or minus 2.9% of targets, whereas the **xanthine oxidase** system was virtually impotent (2.3 plus or minus 0.8%). Methaemoglobin formation by **xanthine oxidase** plus acetaldehyde was significantly greater than that caused by stimulated PMN

(P < 0.001). A similar dichotomy was noted with added H2O2 or the H2O2-generating system, glucose plus glucose oxidase. Thus, although O2 and H2O2 can cross the erythrocyte membrane and rapidly oxidize haemoglobin, they do so evidently without damaging the cell membrane. Agranular PMN cytoplasts (neutroplasts) were significantly less lytic to erythrocytes (P < 0.01) than intact PMN. In **supplementation** studies with 2 micro M iron citrate PMN cytotoxicity was increased by 30%, but there was little effect on erythrocyte lysis by neutroplasts (3% increase), and no effect on lysis in the enzymic oxygen radical-generating systems. Results suggest a critical role for an Fe-liganding moiety abundantly present in PMN, marginally so in neutroplasts, and not at all in purified enzymic systems. Anti-lactoferrin IgG, but not non-specific IgG, reduced PMN cytotoxicity by >85%. Re-adding 10 nM pure human milk lactoferrin (LF) to neutroplasts increased their ability to promote haemolysis to a level near that of intact PMN. It is concluded that O2 and H2O2 are not sufficient to mediate target cell lysis, but require Fe bound to LF, which, in turn, probably generates and focuses toxic O2 radicals, such as OH, to target membrane sites.

L17 ANSWER 10 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
AN 1984-127097 [20] WPIDS
DNC C1984-053705
TI Imitation milk compsn - comprising sweet whey, soluble protein, added sugars, vegetable oil and non-fat milk solids.
DC D13
PA (BROG-I) BROG R A
CYC 1
PI US 4446164 A 19840501 (198420)* 7p
ADT US 4446164 A US 1983-491555 19830504
PRAI US 1980-185534 19800909; US 1982-361761 19820325; US 1983-491555 19830504
AN 1984-127097 [20] WPIDS
AB US 4446164 A UPAB: 19930925
The solids comprises 10-65 wt.% sweet whey solids, 2-20 wt.% water-soluble protein, 5-40 wt.% added sugar, 5-35 wt.% edible vegetable oil, and 3-42 wt.% of other non-fat milk solids. The wt. ratio of water-sol. protein to protein in the whey is 0.2-1.5 : 1, and the ratio of wt. of added sugar to wt. of lactose in the whey and non-fat milk solids is 0.2-1.5 : 1.

The soluble protein is Na caseinate, Ca caseinate, egg albumen, soy isolate or meat protein. The vegetable oil is pref. partially hydrogenated soy oil and/or coconut oil. The added sugar is pref. at least partly corn syrup solids. The other non-fat milk solids are pref. dry **buttermilk**, whey protein concentrate, or esp. non-faty dry milk. The compsn. includes 0.5-2 wt.% **additives** such as gums, emulsifiers, stabilisers, wetting agents, vitamins and flavourings. It is pref. prepd. in the form of an agglomerated dry powder.

The compsn. has excellent storage stability in powder form. It is cheaper than real cows milk and contains fewer allergens and less **xanthine oxidase**.
0/0

L17 ANSWER 11 OF 14 CABA COPYRIGHT 2002 CABI
AN 83:22581 CABA

DN 830486787
TI Sulfoxide reductase activity of liver aldehyde oxidase
AU Tatsumi, K.; Kitamura, S.; Yamada, H.
CS Inst. of Pharmaceutical Sci., Hiroshima Univ., 1-2-3 Kasumi, Minami-ku, Hiroshima 734, Japan.
SO Biochimica et Biophysica Acta, P (Protein Structure and Molecular Enzymology), (1983) Vol. 747, No. 1/2, pp. 86-92. 27 ref.
DT Journal
LA English
AB Guinea pig and rabbit liver aldehyde oxidase in the presence of its electron donors such as aldehydes or N-heterocyclic compounds functioned as a sulphoxide reductase towards the anti-inflammatory agent sulindac and other sulphoxide compounds. A combination of liver aldehyde **oxidase** and **buttermilk xanthine oxidase** also exhibited sulphoxide reductase activity in the presence of xanthine, activity being stimulated by the **addition** of FAD or methyl viologen. An electron-transfer system consisting of aldehyde reductase and **xanthine oxidase** with FAD or methyl viologen as electron carrier between the enzymes is presented.

L17 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2002 ACS
AN 1982:577773 CAPLUS
DN 97:177773
TI The room temperature potentiometry of **xanthine oxidase**. pH-dependent redox behavior of the flavin, molybdenum, and iron-sulfur centers
AU Porras, Arturo G.; Palmer, Graham
CS Dep. Biochem., Rice Univ., Houston, TX, 77001, USA
SO J. Biol. Chem. (1982), 257(19), 11617-26
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
AB A series of potentiometric titrns. of **xanthine oxidase** (I) were performed at room temp. at pH 6.1-9.9. Redn. of the 2 Fe/S centers was monitored by CD, and that of the FAD and Mo centers by EPR. The Fe/S centers have a protonable group whose pKa changes with redn. state. The flavin and the 2-types of Mo centers show varying behavior, but, in all cases, electron **addn**. is accompanied by protonation. The sequence for FAD is redn., protonation, redn., protonation. For rapid Mo, the sequence is protonation, redn., protonation, redn.; and for slow Mo, protonation, redn., protonation. The centers have significant temp. dependence, which calls for a reevaluation of conclusions reached by using cryogenic techniques. The optical absorbance characteristics of I were also investigated and a possible absorbance for Mo is suggested.

L17 ANSWER 13 OF 14 CABA COPYRIGHT 2002 CABI DUPLICATE 4
AN 75:17330 CABA
DN 740413460
TI Association of **xanthine oxidase** with the bovine milk-fat-globule membrane. Catalytic properties of the free and membrane-bound enzyme
AU Briley, M. S.; Eisenthal, R.
CS Biochem. Group, Bath Univ., Bath, BA2 7AY, UK.
SO Biochemical Journal, (1974) Vol. 143, No. 1, pp. 149-157. 28 ref.
DT Journal
LA English
AB Catalytic properties of bovine milk **xanthine oxidase**

are dependent on whether it is free or bound to the fat-globule membrane. Oxidase activity of the membrane-bound enzyme towards NADH is enhanced relative to that towards xanthine. This reflects a change in the relative Km values and enables use of the ratio of **xanthine** to NADH **oxidase** activities (X/N) as a parameter for the relative amounts of enzyme forms in milk fractions. Chromatography of **buttermilk** on Sepharose 2B yielded an excluded fraction (BM1) with **xanthine oxidase** activity. The remaining **xanthine oxidase** activity was eluted as a single broad peak, further resolved on Sephadex G-200 into an excluded fraction (BM2) and free **xanthine oxidase**. BM, and BM2 had X/N values of 45-65, characteristic of membrane-bound **xanthine oxidase**. Purified **xanthine oxidase** had a mean X/N value of 110. **Addition** of BM1, heated to remove associated enzyme activities, to purified **xanthine oxidase** progressively enhanced its NADH oxidase activity to a value where its X/N value was characteristic of membrane-bound **xanthine oxidase**. This was shown to be due to binding of free enzyme to heated fraction BM1. The binding constant and stoichiometry were determined. Proteolytic digestion of BM1 liberated free **xanthine oxidase** from the fat-globule membrane with a corresponding alteration in X/N value.

L17 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2002 ACS
AN 1969:84543 CAPLUS
DN 70:84543
TI Milk **xanthine oxidase**. Some spectral and kinetic properties
AU Massey, Vincent; Brumby, Philip E.; Komai, Hirochika; Palmer, Graham
CS Univ. of Michigan, Ann Arbor, Mich., USA
SO J. Biol. Chem. (1969), 244(7), 1682-91
CODEN: JBCHA3
DT Journal
LA English
AB Milk **xanthine oxidase** was isolated in good yield and purity from pasteurized **buttermilk** and contained FAD, Mo, Fe, and labile sulfide in the ratio of 1:1:4:4. Anal. data on the spectral characteristics of the enzyme in the oxidized and various reduced states are presented. The anaerobic redn. of the enzyme by substrates proceeds in 2 phases: a catalytically significant fast phase and a very much slower secondary phase. Anaerobic titrn. studies indicate that per equiv. of enzyme-bound FAD a 4-electron redn. occurs in the fast phase: 3 **addnl**. electrons may be accepted from substrates in the slow phase, and an 8th electron from dithionite. Rapid reaction studies indicate that, with all substrates tested, with the possible exception of purine, the rate-limiting step in catalysis is the 4-electron redn. of the enzyme, the reaction of the reduced enzyme with O2 being considerably more rapid.

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	59.05	67.56

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL

```
                                                        ENTRY    SESSION
CA SUBSCRIBER PRICE                                     -1.86      -1.86

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                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.00      67.56

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -1.86

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     (FILE 'HOME' ENTERED AT 07:11:22 ON 11 JAN 2002)

     FILE 'AGRICOLA, BIOSIS, CABA, FSTA' ENTERED AT 07:12:15 ON 11 JAN 2002

     FILE 'REGISTRY' ENTERED AT 07:12:22 ON 11 JAN 2002
               E XANTHINE OXIDASE
               E XANTHINE OXIDASE/CN
L1           1 S E3

     FILE 'AGRICOLA, BIOSIS, CABA, FSTA, MEDLINE, CANCERLIT, CAPLUS,
     BIOTECHDS, EMBASE, NAPRALERT, IFIPAT, JAPIO, WPIDS' ENTERED AT 07:13:42
     ON 11 JAN 2002
L2       14163 S L1
L3       34957 S (XANTHINE (2A) (OXIDASE OR OXIDOREDUCTASE OR
DEHYDROGENASE))
L4       35140 S L2 OR L3
L5     6765924 S ADDIT? OR SUPPLEMENT? OR FORMULAT?
L6        6137 S L4 AND L5
L7        5778 S L4 (P) L5
L8        5791 S L4 (L) L5
L9          14 S L4 (W) L5
L10       4501 S L4 (S) L5
L11        784 S L4 (5A) L5
L12        553 S L4 (3A) L5
L13        469 S L4 (2A) L5
L14       6630 S BUTTERMILK
L15         21 S L8 AND L14
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L16          21 S L6 AND L14
L17          14 DUP REM L16 (7 DUPLICATES REMOVED)
L18         208 DUP REM L12 (345 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 07:24:26 ON 11 JAN 2002

     FILE 'AGRICOLA, BIOSIS, CABA, FSTA' ENTERED AT 07:27:41 ON 11 JAN 2002

=> s l4
L19      10367 L4

=> s l5
L20    1411369 L5

=> S ADDITiv? OR SUPPLEMENT? OR FORMULAT?
L21     492290 ADDITIV? OR SUPPLEMENT? OR FORMULAT?

=> s l19 and l21
L22        285 L19 AND L21

=> dup rem
ENTER L# LIST OR (END):l22
PROCESSING COMPLETED FOR L22
L23         236 DUP REM L22 (49 DUPLICATES REMOVED)

=> s l19 (P) l21
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L217 (P) L227'
L24        259 L19 (P) L21

=> d ti l23 1-
YOU HAVE REQUESTED DATA FROM 236 ANSWERS - CONTINUE? Y/(N):y

L23  ANSWER 1 OF 236  FSTA  COPYRIGHT 2002 IFIS
TI   Oxidation of ascorbate in raw milk induced by enzymes and transition
     metals.

L23  ANSWER 2 OF 236  BIOSIS  COPYRIGHT 2002 BIOSIS     DUPLICATE 1
TI   Properties of tomato powders as additives for food fortification
     and stabilization.

L23  ANSWER 3 OF 236  BIOSIS  COPYRIGHT 2002 BIOSIS
TI   Fetal neuronal injury in near-term rabbits following xanthine
     oxidase inhibition and repetitive hypoxia-ischemia.

L23  ANSWER 4 OF 236  BIOSIS  COPYRIGHT 2002 BIOSIS
TI   Enhancement of developmental competence after in vitro fertilization of
     porcine oocytes by treatment with ascorbic acid 2-O-alpha-glucoside
during
     in vitro maturation.

L23  ANSWER 5 OF 236  BIOSIS  COPYRIGHT 2002 BIOSIS
TI   Effects of tocopheryl quinone on the heart: Model experiments with
     xanthine oxidase, heart mitochondria, and isolated
     perfused rat hearts.

L23  ANSWER 6 OF 236  BIOSIS  COPYRIGHT 2002 BIOSIS
TI   Improvement of hemorheological abnormalities in alcoholics by an oral
     antioxidant.
```

L23 ANSWER 7 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI A role for free radicals and nitric oxide in delayed recovery in aged rats
with chronic constriction nerve injury.

L23 ANSWER 8 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI L-Arginine (L-Arg) deficiency and **supplementation** in experimental acute renal failure.

L23 ANSWER 9 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 2
TI Antioxidant activities of buckwheat hull extract toward various oxidative stress in vitro and in vivo.

L23 ANSWER 10 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 3
TI Effect of St. John's wort on free radical production.

L23 ANSWER 11 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 4
TI Fibrinogen is an efficient antioxidant.

L23 ANSWER 12 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Bioequivalence of allopurinol and its metabolite oxipurinol in two tablet **formulations**.

L23 ANSWER 13 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Evaluation of health aspects of kojic acid in food.

L23 ANSWER 14 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Membrane incorporation of dietary n-3 PUFAs protects cardiomyocytes from free radical damage.

L23 ANSWER 15 OF 236 CABA COPYRIGHT 2002 CABI
TI Exercise-induced oxidative stress and antioxidant nutrients.

L23 ANSWER 16 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 5
TI Cyanocobalamin absorption abnormality in alcoholics is improved by oral **supplementation** with a fermented papaya-derived antioxidant.

L23 ANSWER 17 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 6
TI Protection of porcine oocytes against apoptotic cell death caused by oxidative stress during in vitro maturation: Role of cumulus cells.

L23 ANSWER 18 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Enzyme inhibition and protein-binding action of a procyanidin-rich French maritime pine bark extract.

L23 ANSWER 19 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI The possible role of gradual accumulation of copper, cadmium, lead and iron and gradual depletion of zinc, magnesium, selenium, vitamins B2, B6, D, and E and essential fatty acids in multiple sclerosis.

L23 ANSWER 20 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Interaction of nitric oxide and reactive oxygen species on rat diaphragm contractility.

L23 ANSWER 21 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Red blood cells attenuate sinusoidal endothelial cell injury by scavenging
xanthine oxidase-dependent hydrogen peroxide in hyperoxic perfused rat liver.

L23 ANSWER 22 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI The primary mode-of-action of vinclozolin: Are oxygen free radicals directly involved.

L23 ANSWER 23 OF 236 FSTA COPYRIGHT 2002 IFIS
TI Effects of cactus and ginger extracts as dietary antioxidants on reactive oxidant and plasma lipid level.

L23 ANSWER 24 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Neutrophil elastase and oxygen radicals enhance monocyte chemoattractant protein-1 expression after ischemia/reperfusion in rat liver.

L23 ANSWER 25 OF 236 FSTA COPYRIGHT 2002 IFIS
TI Effects of vitamin E on liver cytochrome P450 content and **xanthine oxidase** activity in acute cadmium-poisoned rats.

L23 ANSWER 26 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Enzymes involved in purine metabolism - A review of histochemical localization and functional implications.

L23 ANSWER 27 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Lecithinized ascorbic acid (PC-AS) effectively inhibits murine pulmonary metastasis.

L23 ANSWER 28 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI The hxB gene, necessary for the post-translational activation of purine hydroxylases in Aspergillus nidulans, is independently controlled by the purine utilization and the nicotinate utilization transcriptional activating systems.

L23 ANSWER 29 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 7
TI A tungsten **supplemented** diet attenuates bacterial translocation in chronic portal hypertensive and cholestatic rats: Role of **xanthine dehydrogenase** and **xanthine oxidase**.

L23 ANSWER 30 OF 236 CABA COPYRIGHT 2002 CABI
TI Allopurinol, an inhibitor of **xanthine oxidase**, improves the development of IVM/IVF bovine embryos (>4 cell) in vitro under certain culture conditions.

L23 ANSWER 31 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 8
TI Ethanol-related gastric mucosal damage: Evidence of a free radical-mediated mechanism and beneficial effect of oral **supplementation** with bionormalizer, a novel natural antioxidant.

L23 ANSWER 32 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Selectivity and sensitivity in the measurement of reactive oxygen species (ROS) using chemiluminescent microspheres prepared by the binding of acridinium ester or ABEI to polymer microspheres.

L23 ANSWER 33 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Comparison between in vitro lipid peroxidation in fresh sheep platelets and peroxidative processes during sheep platelet ageing under storage at 4degreeC.

L23 ANSWER 34 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Manganese.

L23 ANSWER 35 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS

TI Antioxidants and oxidative stress in exercise.

L23 ANSWER 36 OF 236 CABA COPYRIGHT 2002 CABI
TI Lycopene and beta -carotene protect against oxidative damage in HT29 cells
at low concentrations but rapidly lose this capacity at higher doses.

L23 ANSWER 37 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Investigations with respect to stabilization of screen-printed enzyme electrodes.

L23 ANSWER 38 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Oxidative stress and aging: Role of exercise and its influences on antioxidant systems.

L23 ANSWER 39 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI **Xanthine oxidase** activity associated with arterial blood pressure in spontaneously hypertensive rats.

L23 ANSWER 40 OF 236 AGRICOLA DUPLICATE 9
TI Superoxide scavenging activity of rosmarinic acid from Perilla frutescens Britton var. acuta f. viridis.

L23 ANSWER 41 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 10
TI Phytic acid inhibits free radical formation in vitro but does not affect liver oxidant or antioxidant status in growing rats.

L23 ANSWER 42 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI **Xanthine oxidase** inhibition attenuates Kupffer cell production of neutrophil chemoattractant following ischemia-reperfusion in
rat liver.

L23 ANSWER 43 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 11
TI Low doses of eicosapentaenoic acid, docosahexaenoic acid, and hypolipidemic eicosapentaenoic acid derivatives have no effect on lipid peroxidation in plasma.

L23 ANSWER 44 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Characterization of the enzymatic activity for biphasic competition by guanoxabenz (1-(2,6-dichlorobenzylidene-amino)-3-hydroxyguanidine) at alpha2-adrenoceptors. I. Description of an enzymatic activity in spleen membranes.

L23 ANSWER 45 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Generation of nitric oxide by a nitrite reductase activity of **xanthine oxidase**: A potential pathway for nitric oxide formation in the absence of nitric oxide synthase activity.

L23 ANSWER 46 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Endothelial injury from a circulating mediator following rat liver ischemia.

L23 ANSWER 47 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 12
TI Urinary excretion of purine derivatives as an index of microbial-nitrogen intake in growing rabbits.

L23 ANSWER 48 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Supercritical fluid-aerosolized vitamin E pretreatment decreases leak in isolated oxidant-perfused rat lungs.

L23 ANSWER 49 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Dietary L-arginine prevents fetal growth restriction in rats.

L23 ANSWER 50 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Inhibition of **xanthine oxidase** ameliorates premature fetal brain injury following acute hypoxia.

L23 ANSWER 51 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Immunopharmacologic agents in the amelioration of hepatic injuries.

L23 ANSWER 52 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI L-arginine **supplementation** attenuates **xanthine oxidase**-dependent vascular in hypercholesterolemic rabbits.

L23 ANSWER 53 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Genotoxicity of coke-oven and urban air particulate matter in in vitro acellular assays coupled with 32P-postlabeling and HPLC analysis of DNA adducts.

L23 ANSWER 54 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Oxygen free radical scavenger properties of dehydroepiandrosterone.

L23 ANSWER 55 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Protective effects of lazaroid U74389G on intestinal graft after heterotopic small bowel transplantation in rats.

L23 ANSWER 56 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI L-arginine and allopurinol protect against cyclosporine nephrotoxicity.

L23 ANSWER 57 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Endogenous nitric oxide decreases **xanthine oxidase** -mediated neutrophil adherence: Role of P-selectin.

L23 ANSWER 58 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Effect of YC-1, an NO-independent, superoxide-sensitive stimulator of soluble guanylyl cyclase, on smooth muscle responsiveness to nitrovasodilators.

L23 ANSWER 59 OF 236 AGRICOLA
TI Effect of L-ascorbic acid and superoxide anion radical on the rheological properties of wheat flour-water dough.

L23 ANSWER 60 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Chorioamnionitis reduces placental endocrine functions: The role of bacterial lipopolysaccharide and superoxide anion.

L23 ANSWER 61 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Effect of lipid and propofol on oxidation of haemoglobin by reactive oxygen species.

L23 ANSWER 62 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Role of lipid peroxidation and antioxidants in gastric mucosal injury induced by the hypoxanthine-**xanthine oxidase** system in rats.

L23 ANSWER 63 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Hemorrhage induces rapid in vivo activation of CREB and NF-kappa-B in murine intraparenchymal lung mononuclear cells.

L23 ANSWER 64 OF 236 CABA COPYRIGHT 2002 CABI
TI The antioxidant activity of Chinese herbs for eczema and of placebo herbs - I.

L23 ANSWER 65 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Protective effect of a novel free radical scavenger, OPC-14117, on wobbler mouse motor neuron disease.

L23 ANSWER 66 OF 236 AGRICOLA DUPLICATE 13
TI Nutritional evaluation of typical and reformulated Italian cheese.

L23 ANSWER 67 OF 236 CABA COPYRIGHT 2002 CABI
TI Oxidation behaviour of vanillin in dairy products.

L23 ANSWER 68 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Tiazofurin: Molecular and clinical action.

L23 ANSWER 69 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Role of **xanthine oxidase**-derived oxidants and leukocytes in ethanol-induced jejunal mucosal injury.

L23 ANSWER 70 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Alterations of nitric oxide synthase and **xanthine oxidase** activities of human keratinocytes by ultraviolet B radiation: Potential role for peroxynitrite in skin inflammation.

L23 ANSWER 71 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Role of reactive oxygen metabolites in murine peritoneal macrophage phagocytosis and phagocytic killing.

L23 ANSWER 72 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Reactive oxygen species mediate stem cell factor synergy with granulocyte/macrophage colony-stimulating factor in a subpopulation of primitive murine hematopoietic progenitor cells.

L23 ANSWER 73 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Nitric oxide and peroxynitrite released by ultraviolet B-irradiated human endothelial cells are possibly involved in skin erythema and inflammation.

L23 ANSWER 74 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Regulation of intracellular **xanthine oxidase** by endothelial-derived nitric oxide.

L23 ANSWER 75 OF 236 AGRICOLA DUPLICATE 14
TI Properties of **xanthine dehydrogenase** variants from rosy mutant strains of Drosophila melanogaster and their relevance to the enzyme's structure and mechanism.

L23 ANSWER 76 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Modulation of **xanthine oxidase**, plasma uric acid and fetal growth by endogenous nitric oxide.

L23 ANSWER 77 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Inhibition of the human neutrophil respiratory burst by native and synthetic surfactant.

L23 ANSWER 78 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Oxygen toxicity to the developing lung of the mouse: Role of reactive

oxygen species.

L23 ANSWER 79 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Inhibition of free radical production or free radical scavenging protects from the excitotoxic cell death mediated by glutamate in cultures of cerebellar granule neurons.

L23 ANSWER 80 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 15
TI Dietary nicotinamide **supplementation** increases **xanthine oxidoreductase** activity in the kidney and heart but not liver of obese Zucker rats.

L23 ANSWER 81 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Fish oil treatment decreases superoxide anions in the myocardium and coronary arteries of atherosclerotic monkeys.

L23 ANSWER 82 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Metabolism of (14C)1,3-dinitrobenzene by rat small intestinal mucosa in vitro.

L23 ANSWER 83 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Effect of rhizospheric application of syringaldehyde and nitrate on enzymes of ammonia assimilation and ureide biogenesis in Bradyrhizobium mungbean symbiosis.

L23 ANSWER 84 OF 236 CABA COPYRIGHT 2002 CABI
TI Effect of rhizospheric application of syringaldehyde and nitrate on enzymes of ammonia assimilation and ureide biogenesis in Bradyrhizobium mungbean symbiosis.

L23 ANSWER 85 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 16
TI The antioxidative property of tea extracts and stability of **supplemental** vitamin C.

L23 ANSWER 86 OF 236 CABA COPYRIGHT 2002 CABI
TI The effect of vitamin E on the antioxidative defense mechanism in streptozotocin-induced diabetic rats.

L23 ANSWER 87 OF 236 AGRICOLA DUPLICATE 17
TI Carboxy-terminal cytoplasmic domain of mouse butyrophilin specifically associates with a 150-kDa protein of mammary epithelial cells and milk fat
globule membrane.

L23 ANSWER 88 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Disposition and uric acid lowering effect of oxipurinol: Comparison of different oxipurinol **formulations** and allopurinol in healthy individuals.

L23 ANSWER 89 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Molybdenum cofactor deficiency: Failure to restore sulfite **oxidase** and **xanthine oxidase** activities in vivo with molybdenum **supplementation**.

L23 ANSWER 90 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Glutamate uptake inhibition by oxygen free radicals in rat cortical astrocytes.

L23 ANSWER 91 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Reactive oxygen species rapidly increase endothelial ICAM-1 ability to

bind neutrophils without detectable upregulation.

L23 ANSWER 92 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Glutamate uptake is inhibited by arachidonic acid and oxygen radicals via two distinct and **additive** mechanisms.

L23 ANSWER 93 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Role of oxygen radicals in the chromosomal loss and breakage induced by the quinone-forming compounds, hydroquinone and tert-butylhydroquinone.

L23 ANSWER 94 OF 236 CABA COPYRIGHT 2002 CABI
TI Effect of molybdenum, zinc, and sulphur on **xanthine oxidase** activity in bulls at various levels of dietary copper.

L23 ANSWER 95 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Endogenous **xanthine oxidase** does not significantly contribute to vascular endothelial production of reactive oxygen species.

L23 ANSWER 96 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Protection from radiation injury by elemental diet: Does added glutamine change the effect.

L23 ANSWER 97 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 18
TI Characterization of enzymatically active Onchocera volvulus Cu/Zn superoxide dismutase expressed in Escherichia coli.

L23 ANSWER 98 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Molybdenum(V) sites in **xanthine oxidase** and relevant analog complexes: Comparison of oxygen-17 hyperfine coupling.

L23 ANSWER 99 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Physiological and biochemical characterization of the soluble formate dehydrogenase, a molybdoenzyme from Alcaligenes eutrophus.

L23 ANSWER 100 OF 236 AGRICOLA DUPLICATE 19
TI Xanthine toxicity to caterpillars synergized by allopurinol, a **xanthine dehydrogenase/oxidase** inhibitor.

L23 ANSWER 101 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Dissociation of **xanthine oxidase** induction and cytochrome P450 depression during interferon induction in the rat.

L23 ANSWER 102 OF 236 FSTA COPYRIGHT 2002 IFIS
TI The effect of metal chelators, hydroxyl radical scavengers, and enzyme systems on the lipid peroxidation of raw turkey meat.

L23 ANSWER 103 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI A prospective, randomized study of lumbar fusion: Preliminary results.

L23 ANSWER 104 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI **Formulation** of a suspension of Allopurinol for a desensitization schedule.

L23 ANSWER 105 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Methotrexate cytotoxicity determination using the MTT assay following enzymatic depletion of thymidine and hypoxanthine.

L23 ANSWER 106 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Physiologic levels of uric acid inhibit **xanthine oxidase**

in human plasma.

L23 ANSWER 107 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Effect of zinc **supplementation** on resistance of cultured human skin fibroblasts toward oxidant stress.

L23 ANSWER 108 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Reperfusion mucosal damage after complete intestinal ischemia in the dog: The effects of antioxidant and phospholipase A-2 inhibitor therapy.

L23 ANSWER 109 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Alcohol abuse, free radicals, and vitamin E.

L23 ANSWER 110 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Human sperm hyperactivation and capacitation as parts of an oxidative process.

L23 ANSWER 111 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Binding of serotonin and dopamine to "serotonin binding proteins" in bovine frontal cortex: Evidence for iron-induced oxidative mechanisms.

L23 ANSWER 112 OF 236 AGRICOLA DUPLICATE 20
TI Asparagine and boric acid cause allantoate accumulation in soybean leaves by inhibiting manganese-dependent allantoate amidohydrolase.

L23 ANSWER 113 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 21
TI MOLYBDENUM REQUIREMENT OF FEMALE RATS.

L23 ANSWER 114 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI EFFECT OF CITRATE FEEDING ON FREE RADICAL INDUCED CHANGES IN EXPERIMENTAL UROLITHIASIS.

L23 ANSWER 115 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI MOLSIDOMINE INHIBITS THE CHEMOATTRACTANT-INDUCED RESPIRATORY BURST IN HUMAN NEUTROPHILS VIA A NITRIC OXIDE-INDEPENDENT MECHANISM.

L23 ANSWER 116 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI Platelet prevention of oxidant lung oedema is not mediated through scavenging of hydrogen peroxide.

L23 ANSWER 117 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI A CRITICAL EVALUATION OF THE PRESENT STATUS OF TOXICITY OF AMINOXYL RADICALS.

L23 ANSWER 118 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI MODULATION OF PROTEINURIA AND RENAL **XANTHINE OXIDASE** ACTIVITY BY DIETARY PROTEINS IN ACUTE ADRIAMYCIN NEPHROSIS IN RATS LACK OF
CORRELATION WITH INTRA AND EXTRACELLULAR AMINO ACIDS.

L23 ANSWER 119 OF 236 CABA COPYRIGHT 2002 CABI
TI [The effects of dietary fatty acids on the XDH activity in Japanese quail].
Vplyv mastnych kyselin v krmive na aktivitu xantin dehydrogenazy u prepelice japonskej.

L23 ANSWER 120 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI DIPHENYLENE IODONIUM AS AN INHIBITOR OF THE NADPH OXIDASE COMPLEX OF BOVINE NEUTROPHILS FACTORS CONTROLLING THE INHIBITORY POTENCY OF DIPHENYLENE IODONIUM IN A CELL-FREE SYSTEM OF OXIDASE ACTIVATION.

L23 ANSWER 121 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ACTIVATED NEUTROPHILS INCREASE MICROVASCULAR PERMEABILITY IN SKELETAL MUSCLE ROLE OF **XANTHINE OXIDASE**.

L23 ANSWER 122 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 22
TI **XANTHINE OXIDASE** INHIBITS GROWTH OF PLASMODIUM-FALCIPARUM IN HUMAN ERYTHROCYTES IN-VITRO.

L23 ANSWER 123 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI PSEUDOMONAS AND NEUTROPHIL PRODUCTS MODIFY TRANSFERRIN AND LACTOFERRIN TO CREATE CONDITIONS THAT FAVOR HYDROXYL RADICAL FORMATION.

L23 ANSWER 124 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 23
TI A TUNGSTEN-**SUPPLEMENTED** DIET DELIVERED BY TRANSPLACENTAL AND BREAST-FEEDING ROUTES LOWERS INTESTINAL **XANTHINE OXIDASE** ACTIVITY AND AFFORDS CYTOPROTECTION IN ISCHEMIA-REPERFUSION INJURY TO THE SMALL INTESTINE.

L23 ANSWER 125 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 24
TI METHIONINE FEEDING PREVENTS KIDNEY STONE DEPOSITION BY RESTORATION OF FREE RADICAL MEDIATED CHANGES IN EXPERIMENTAL RAT UROLITHIASIS.

L23 ANSWER 126 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ADDITIONAL ANTILIPOPEROXIDANT ACTIVITIES OF ALPHA TOCOPHEROL AND ASCORBIC ACID ON MEMBRANE-LIKE SYSTEMS ARE POTENTIATED BY RUTIN.

L23 ANSWER 127 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ROLE OF **XANTHINE OXIDASE** AND NEUTROPHILS IN ISCHEMIA-REPERFUSION INJURY IN RABBIT LUNG.

L23 ANSWER 128 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ACTIONS OF ADENOSINE ON NITRO BLUE TETRAZOLIUM DEPOSITION AND SURFACE PH DURING INTESTINAL REPERFUSION INJURY.

L23 ANSWER 129 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI REACTIVE OXYGEN SPECIES ALTER CONTRACTILE PROPERTIES OF PULMONARY ARTERIAL SMOOTH MUSCLE.

L23 ANSWER 130 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 25
TI ABSORPTION OF ENZYMATICALLY ACTIVE IODINE-125 LABELED BOVINE MILK **XANTHINE OXIDASE** FED TO RABBITS.

L23 ANSWER 131 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI PROTECTIVE ACTION OF SELENIUM AND MANGANESE ON **XANTHINE** AND **XANTHINE OXIDASE** INDUCED OXIDATIVE DAMAGE TO CULTURED HEART CELLS.

L23 ANSWER 132 OF 236 AGRICOLA DUPLICATE 26
TI The role of dietary molybdenum on estrous activity, fertility, reproduction and molybdenum and copper enzyme activities of female rats.

L23 ANSWER 133 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI PROTECTIVE EFFECTS OF PRETREATMENT WITH SUPEROXIDE DISMUTASE CATALASE AND OXYPURINOL ON TUBULAR DAMAGE CAUSED BY TRANSIENT ISCHEMIA.

L23 ANSWER 134 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI NEUTROPHILS ARE NOT NECESSARY FOR INDUCTION OF ISCHEMIA-REPERFUSION LUNG

INJURY.

L23 ANSWER 135 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI PEROXIDATION IN POSITION C-6 OF PROGESTERONE-3-ETHANOLAMINE IS INCREASED BY THE PRESENCE OF ENZYMES GENERATING OXYGEN RADICALS.

L23 ANSWER 136 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI PHOTOTROPHIC GROWTH OF MICROALGAE WITH ALLANTOIC ACID OR HYPOXANTHINE SERVING AS NITROGEN SOURCE IMPLICATIONS FOR PURINE NITROGEN UTILIZATION.

L23 ANSWER 137 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI INHIBITION OF CYTOTOXICITY BY INTRACELLULAR SUPEROXIDE DISMUTASE **SUPPLEMENTATION**.

L23 ANSWER 138 OF 236 CABA COPYRIGHT 2002 CABI
TI Rancidity in dairy products.

L23 ANSWER 139 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI PROGRESS IN HISTOCHEMISTRY AND CYTOCHEMISTRY VOL. 20. NO. 1. PEROXISOMAL OXIDASES CYTOCHEMICAL LOCALIZATION AND BIOLOGICAL RELEVANCE.

L23 ANSWER 140 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI SPIN-TRAPPING AND HUMAN NEUTROPHILS LIMITS OF DETECTION OF HYDROXYL RADICAL.

L23 ANSWER 141 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ROLE OF **XANTHINE OXIDASE** IN POSTISCHEMIC MICROVASCULAR INJURY IN SKELETAL MUSCLE.

L23 ANSWER 142 OF 236 AGRICOLA DUPLICATE 27
TI Effects of dietary iron deficiency and tungsten **supplementation** on 59Fe absorption and gastric retention from 59Fe compounds in rats.

L23 ANSWER 143 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI EFFECTS OF DIETARY IRON DEFICIENCY AND TUNGSTEN **SUPPLEMENTATION** ON IRON-59 ABSORPTION AND GASTRIC RETENTION FROM IRON-59 COMPOUNDS IN RATS.

L23 ANSWER 144 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ENHANCEMENT OF STAINING INTENSITY OF MOSQUITO LARVA ZYMOGRAMS AFTER ELECTROPHORESIS.

L23 ANSWER 145 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI **XANTHINE OXIDASE** INHIBITOR IN ACUTE EXPERIMENTAL PANCREATITIS IN RATS AND MICE.

L23 ANSWER 146 OF 236 AGRICOLA DUPLICATE 28
TI Effect of molybdenum **supplementation** on hepatic trace elements and enzymes of female rats.

L23 ANSWER 147 OF 236 CABA COPYRIGHT 2002 CABI
TI Oxidized flavour and **xanthine oxidase** in milk.

L23 ANSWER 148 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI URIC ACID AS RADICAL SCAVENGER AND ANTIOXIDANT IN THE HEART.

L23 ANSWER 149 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI CHEMILUMINESCENCE FROM ACETALDEHYDE OXIDATION BY **XANTHINE OXIDASE** INVOLVES GENERATION OF AND INTERACTIONS WITH HYDROXYL RADICALS.

L23 ANSWER 150 OF 236 CABA COPYRIGHT 2002 CABI
TI Immunologic **supplementation** of cow's milk **formulations**

L23 ANSWER 151 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI RESPIRATORY FAILURE CAUSED BY INTRATRACHEAL SALINE **ADDITIVE** EFFECT OF **XANTHINE OXIDASE**.

L23 ANSWER 152 OF 236 CABA COPYRIGHT 2002 CABI
TI Effects of high protein and allopurinol **supplemented** diets on blood uric acid, ammonia concentration and **xanthine dehydrogenase** activity in liver and kidney in gout and non-gout lines.

L23 ANSWER 153 OF 236 FSTA COPYRIGHT 2002 IFIS
TI Biotechnology from European patent applications.

L23 ANSWER 154 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI MOLYBDENUM-VI AND MOLYBDENUM-V COMPLEXES WITH N N' DIMETHYL-N N'-BIS-2-MERCAPTOPHENYLETHYLENEDIAMINE. ELECTROCHEMICAL AND EPR MODELS FOR THE MOLYBDENUM-VI-V CENTERS OF THE MOLYBDENUM HYDROXYLASES AND RELATED ENZYMES.

L23 ANSWER 155 OF 236 CABA COPYRIGHT 2002 CABI
TI Effects of egg on iron-deficient rats.

L23 ANSWER 156 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI MOLYBDENUM AND COPPER ENZYMES AND HORMONE ACTIVITY IN MOLYBDENUM **SUPPLEMENTED** FEMALE RATS.

L23 ANSWER 157 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI NITROBACTER-WINOGRADSKYI CYTOCHROME A-1C-1 IS AN IRON-SULFUR MOLYBDOENZYME HAVING HEMES A AND C.

L23 ANSWER 158 OF 236 CABA COPYRIGHT 2002 CABI
TI Effect of dietary Entada scandens seed kernel on serum proteins and some hepatic enzymes in rat.

L23 ANSWER 159 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI TISSUE PROTECTION BY ALLOPURINOL IN THE MYOCARDIAL CALCIUM PARADOX.

L23 ANSWER 160 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI RESPONSE OF THE WILD TYPE AND LOW **XANTHINE DEHYDROGENASE** STRAINS OF DROSOPHILA-MELANOGASTER TO ADENINE RESISTANCE SELECTION.

L23 ANSWER 161 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 29
TI FREE RADICAL SCAVENGERS REDUCE THE DIFFERENT INCIDENCES OF ISOPRENALINE INDUCED DYSRHYTHMIA IN ISOLATED ATRIA FROM RATS FED LIPID-**SUPPLEMENTED** DIETS.

L23 ANSWER 162 OF 236 CABA COPYRIGHT 2002 CABI
TI Effect of zinc diet on **xanthine oxidase** activity of liver of mice infected with Plasmodium berghei.

L23 ANSWER 163 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI SENSITIVITY OF YEAST CELLS TO REACTIVE OXYGEN SPECIES GENERATED IN THE EXTRACELLULAR SPACE.

L23 ANSWER 164 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI SOME ACTIVITY CHANGES OF ENZYMES IN PEROXIDATIVE PATHWAYS IN MICE FED SELENIUM DEFICIENT CEREALS FROM A KASHIN DISEASE ENDEMIC AREA.

L23 ANSWER 165 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI INHIBITION OF LIPID PEROXIDATION IMPROVES SURVIVAL RATE OF ENDOTOXEMIC RATS.

L23 ANSWER 166 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI STIMULATED HUMAN NEUTROPHILS LIMIT IRON-CATALYZED HYDROXYL RADICAL FORMATION AS DETECTED BY SPIN-TRAPPING TECHNIQUES.

L23 ANSWER 167 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI STUDIES OF THE CLINICAL PHARMACOKINETICS OF ALLOPURINOL 3RD COMMUNICATION ALLOPURINOL-OXIPURINOL BIOAVAILABILITY AND PHARMACOKINETICS FOLLOWING THE ADMINISTRATION OF A CONTROLLED RELEASE ALLOPURINOL **FORMULATION**.

L23 ANSWER 168 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI THE EFFECTS OF HYPOXANTHINE ON METHOTREXATE-INDUCED DIFFERENTIATION OF CULTURED HUMAN CHORIOCARCINOMA BEWO CELLS.

L23 ANSWER 169 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 30
TI INACTIVATION OF MITOCHONDRIAL ATPASE FROM TRYPANOSOMA-CRUZI BY OXYGEN RADICALS.

L23 ANSWER 170 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI LYMPHOCYTE DYSFUNCTION AFTER DNA DAMAGE BY TOXIC OXYGEN SPECIES A MODEL OF
IMMUNODEFICIENCY.

L23 ANSWER 171 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI METABOLIC NITRITE FORMATION FROM N NITROSAMINES ARE THERE OTHER PATHWAYS THAN REDUCTIVE DENITROSATION BY CYTOCHROME P-450.

L23 ANSWER 172 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI EFFECTS OF **SUPPLEMENTING** HYPOTHERMIC CRYSTALLOID CARDIOPLEGIC SOLUTION WITH CATALASE SUPEROXIDE DISMUTASE ALLOPURINOL OR DEFEROXAMINE ON
FUNCTIONAL RECOVERY OF GLOBALLY ISCHEMIC AND REPERFUSED ISOLATED HEARTS.

L23 ANSWER 173 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI SULFOXIDE REDUCTION CATALYZED BY GUINEA-PIG LIVER ALDEHYDE OXIDASE IN COMBINATION WITH ONE-ELECTRON REDUCING FLAVOENZYMES.

L23 ANSWER 174 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 31
TI OXYGEN RADICAL-INDUCED ERYTHROCYTE HEMOLYSIS BY NEUTROPHILS CRITICAL ROLE OF IRON AND LACTOFERRIN.

L23 ANSWER 175 OF 236 CABA COPYRIGHT 2002 CABI
TI Duodenal **xanthine oxidase** (EC 1.2.3.2) and ferroxidase activities in the rat in relation to the increased iron absorption caused by peroral xylitol.

L23 ANSWER 176 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI INACTIVATION OF ESCHERICHIA-COLI GLUTAMINE SYNTHETASE BY **XANTHINE OXIDASE** NICOTINATE HYDROXYLASE HORSERADISH PEROXIDASE OR GLUCOSE OXIDASE EFFECTS OF FERREDOXIN PUTIDAREDOXIN AND MENADIONE.

L23 ANSWER 177 OF 236 CABA COPYRIGHT 2002 CABI

TI [Enzymes of ureide biosynthesis in soybean nodules: effect of nitrate treatment].
[Poster].

L23 ANSWER 178 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI IDENTIFICATION OF A NEW CARDIOPROTECTIVE AGENT 6-2 ISOPROPYLAMINOPROPYL-3-
PYRIDINOL.

L23 ANSWER 179 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI LIPID PHOTOOXIDATION IN ERYTHROCYTE GHOSTS SENSITIZATION OF THE MEMBRANES TOWARD ASCORBATE-INDUCED AND SUPEROXIDE-INDUCED PEROXIDATION AND LYSIS.

L23 ANSWER 180 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI EFFECT OF SYNTHETIC ANTIOXIDANTS OF HYDROGEN PEROXIDE FORMATION OXYFERRO CYTOCHROME P-450 CONCENTRATION AND OXYGEN CONSUMPTION IN LIVER MICROSOMES.

L23 ANSWER 181 OF 236 FSTA COPYRIGHT 2002 IFIS
TI Effect of synthetic antioxidants on hydrogen peroxide formation, oxyferro cytochrome P-450 concentration and oxygen consumption in liver microsomes.

L23 ANSWER 182 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI OXIDANT MEDIATED ELECTRONIC EXCITATION OF IMIPRAMINE.

L23 ANSWER 183 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI INVOLVEMENT OF LIVER ALDEHYDE OXIDASE IN THE REDUCTION OF NICOTINAMIDE N OXIDE.

L23 ANSWER 184 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ROLE OF THE SMALL INTESTINE IN URIC-ACID METABOLISM IN POTASSIUM OXONATE TREATED HYPERURICEMIC MICE.

L23 ANSWER 185 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI CHROMOSOMAL ABERRATIONS IN V-79 CELLS INDUCED BY SUPER OXIDE RADICAL GENERATED BY THE HYPO **XANTHINE XANTHINE OXIDASE** SYSTEM.

L23 ANSWER 186 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 32
TI NON-PHAGE INHIBITION OF GROUP N STREPTOCOCCI IN MILK 2. THE EFFECTS OF SOME INHIBITORY COMPOUNDS.

L23 ANSWER 187 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI MODULATION OF MACROPHAGE SUPER OXIDE RELEASE BY PURINE METABOLISM.

L23 ANSWER 188 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ASSESSMENT OF THE SCAVENGING ACTION OF REDUCED GLUTATHIONE DEXTRO-3 CYANIDANOL AND ETHANOL BY THE CHEMI LUMINESCENT RESPONSE OF THE **XANTHINE OXIDASE** EC-1.2.3.2 REACTION.

L23 ANSWER 189 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI REGENERATION OF FULLY NITRATE REDUCTASE DEFICIENT MUTANTS FROM PROTOPLAST CULTURE OF NICOTIANA-PLUMBAGINIFOLIA.

L23 ANSWER 190 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI LEUKOTRIENE B-4 LEUKOTRIENE C-4 LEUKOTRIENE D-4 AND LEUKOTRIENE E-4 INACTIVATION BY HYDROXYL RADICALS.

L23 ANSWER 191 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS

TI IODINATION CATALYZED BY THE **XANTHINE OXIDASE** SYSTEM
ROLE OF HYDROXYL RADICALS.

L23 ANSWER 192 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI LIVER **XANTHINE DEHYDROGENASE** AND IRON MOBILIZATION.

L23 ANSWER 193 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ISOLATION OF MOLYBDENUM COFACTOR DEFECTIVE CELL LINES OF NICOTIANA-TABACUM
CULTIVAR XANTHI.

L23 ANSWER 194 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI FURTHER STUDIES ON SULFOXIDE REDUCING ENZYME SYSTEM.

L23 ANSWER 195 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 33
TI THE INFLUENCE OF DIETARY MOLYBDENUM AND COPPER **SUPPLEMENTATION**
ON THE CONTENTS OF SERUM URIC-ACID AND SOME TRACE ELEMENTS IN COCKS.

L23 ANSWER 196 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 34
TI ISOLATION AND CHARACTERIZATION OF AN ADENINE UTILIZING ANAEROBIC SPORE FORMER CLOSTRIDIUM-PURINOLYTICUM NEW-SPECIES.

L23 ANSWER 197 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI MODE OF REACTIONS BETWEEN **XANTHINE OXIDASE** EC-1.2.3.2
AND AROMATIC NITRO COMPOUNDS.

L23 ANSWER 198 OF 236 AGRICOLA
TI Iron, immunity and infection: Is there a causal link?

L23 ANSWER 199 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI STUDIES ON ENZYMIC CIS-TRANS ISOMERIZATION OF NITRO THIOPHENE AND NITRO BENZENE DERIVATIVES.

L23 ANSWER 200 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI THE EFFECT OF OXIDANT STRESS ON HUMAN LYMPHOCYTE CYTO TOXICITY.

L23 ANSWER 201 OF 236 CABA COPYRIGHT 2002 CABI
TI Dietary protein in metabolic adaptation of rat thymus.

L23 ANSWER 202 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI COMBINED DEFICIENCY OF SULFITE **OXIDASE** AND **XANTHINE**
OXIDASE AS A RESULT OF DEFECTIVE SYNTHESIS OF MOLYBDENUM COFACTOR.

L23 ANSWER 203 OF 236 CABA COPYRIGHT 2002 CABI
TI Evaluation of nutritive value of soy protein isolate using hepatic ornithine decarboxylase activity as a marker.

L23 ANSWER 204 OF 236 CABA COPYRIGHT 2002 CABI
TI Facts about milk.

L23 ANSWER 205 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI SELENIUM REQUIREMENT FOR ACTIVE **XANTHINE DEHYDROGENASE**
FROM CLOSTRIDIUM-ACIDIURICI AND CLOSTRIDIUM-CYLINDROSPORUM.

L23 ANSWER 206 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ENZYMIC CIS TRANS ISOMERIZATION OF NITRO FURAN DERIVATIVES ISOMERIZING ACTIVITY OF **XANTHINE OXIDASE** EC-1.2.3.2 LIPOYL
DEHYDROGENASE EC-1.6.4.3 DT DIAPHORASE EC-1.6.99.2 AND LIVER MICROSOMES.

L23 ANSWER 207 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS

TI BACTERICIDAL ACTIVITY OF A SUPER OXIDE ANION GENERATING SYSTEM A MODEL FOR
THE POLYMORPHONUCLEAR LEUKOCYTE.

L23 ANSWER 208 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI ISOLATION AND IDENTIFICATION OF THE METABOLITE OF N-5 NITRO-2-FURFURYLIDENE-3-AMINO-2 OXAZOLIDONE FURAZOLIDONE.

L23 ANSWER 209 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 35
TI STUDIES ON LYMPHATIC ABSORPTION OF AND THE AVAILABILITY OF RIBOFLAVINE FROM BOVINE MILK **XANTHINE OXIDASE** EC-1.2.3.2.

L23 ANSWER 210 OF 236 CABA COPYRIGHT 2002 CABI
TI NADH-FMN oxidoreductase activity and iron content of organs from riboflavin- and iron-deficient rats.

L23 ANSWER 211 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 36
TI SERUM **XANTHINE OXIDASE** EC-1.2.3.2 STUDIES ON MINIATURE PIGS.

L23 ANSWER 212 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI A FURTHER CHARACTERIZATION OF THE CINNAMON GENE IN DROSOPHILA-MELANOGASTER.

L23 ANSWER 213 OF 236 CABA COPYRIGHT 2002 CABI
TI Milk fat products. Dairy products high in linoleic acid.

L23 ANSWER 214 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI CIS TRANS ISOMERIZATION OF NITRO FURAN DERIVATIVES BY **XANTHINE OXIDASE** EC-1.2.3.2.

L23 ANSWER 215 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI **XANTHINE OXIDASE** ACTIVITY IN RAT SERUM AFTER ADMINISTRATION OF HOMOGENIZED BOVINE CREAM PREPARATION.

L23 ANSWER 216 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI STUDIES RELATED TO ANTI TUMOR ANTIBIOTICS PART 8 CLEAVAGE OF DNA BY STREPTONIGRIN ANALOGS AND THE RELATIONSHIP TO ANTI NEOPLASTIC ACTIVITY.

L23 ANSWER 217 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI EFFECT OF VITAMIN E DEFICIENCY ON THE LEVEL OF SUPER OXIDE DIS MUTASE GLUTATHIONE PEROXIDASE CATALASE AND LIPID PER OXIDE IN RAT LIVER.

L23 ANSWER 218 OF 236 CABA COPYRIGHT 2002 CABI
TI [Nutritive value of biscuits and farinaceous paste with added soya bean].
Valoarea nutritiva a biscuitilor si a pastelor fainoase cu adaos de soia.

L23 ANSWER 219 OF 236 CABA COPYRIGHT 2002 CABI
TI Repletion studies on liver protein, glycogen content and liver enzymes by feeding protein isolates of Cassia marginata and Cassia renigera wild leguminous seeds in normal albino rats.

L23 ANSWER 220 OF 236 CABA COPYRIGHT 2002 CABI
TI Adaptive changes in **xanthine oxidase** under conditions of molybdenum and copper biogeochemical regions.

L23 ANSWER 221 OF 236 CABA COPYRIGHT 2002 CABI
TI Influence of vitamin A on formation and excretion of end products of

nitrogen catabolism in chicks.

L23 ANSWER 222 OF 236 CABA COPYRIGHT 2002 CABI
TI Studies on the formation of lipid peroxides and on some enzymic activities
in the liver of vitamin E-deficient rats.

L23 ANSWER 223 OF 236 CABA COPYRIGHT 2002 CABI
TI [Nutritive value of alimentary pastes with added soya bean].
Valoarea nutritiva a pastelor fainoase cu adaos de soia.

L23 ANSWER 224 OF 236 CABA COPYRIGHT 2002 CABI
TI Adaptive changes of the milk **xanthine oxidase** and its
isoenzymes during molybdenum and copper action.

L23 ANSWER 225 OF 236 CABA COPYRIGHT 2002 CABI
TI Differential effect of gluten and casein diets on rat liver HMP shunt
dehydrogenases.

L23 ANSWER 226 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI EFFECTS OF GLYCINE AND CHOLINE ON URIC-ACID METABOLISM OF YOUNG CHICKS.

L23 ANSWER 227 OF 236 CABA COPYRIGHT 2002 CABI
TI Nonheme iron mobilization from the liver in piglets.

L23 ANSWER 228 OF 236 CABA COPYRIGHT 2002 CABI DUPLICATE 37
TI [Properties of milk **xanthine oxidase** and its
isoenzymes with different molybdenum and copper contents in the ration].
Svoistva ksantinoksidazy moloka i ee izofermentov pri razlichnom
soderzhanii molibdena i medi v ratsione.

L23 ANSWER 229 OF 236 CABA COPYRIGHT 2002 CABI
TI The effect of forced feeding and of dietary protein level on enzymes
associated with digestion, protein and carbohydrate metabolism in geese.

L23 ANSWER 230 OF 236 CABA COPYRIGHT 2002 CABI
TI [Nutritive value of meat preparations with **supplements** of
tissues rich in collagen].
Valoarea nutritiva a preparatelor de carne cu adaos de tesuturi bogate in
colagen.

L23 ANSWER 231 OF 236 CABA COPYRIGHT 2002 CABI DUPLICATE 38
TI Polarographic estimation of **xanthine oxidase** activity
in milk.

L23 ANSWER 232 OF 236 CABA COPYRIGHT 2002 CABI
TI The quality of bread **supplemented** with maize flour and other
ingredients.

L23 ANSWER 233 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI BIOCHEMICAL STUDIES ON INDIAN WILD LEGUMES-D PART 7 EFFECT OF
ACACIA-ARABICA-D AND ACACIA-CATECHU-D SEED PROTEIN ISOLATES ON TOTAL
LIVER
PROTEIN GLYCOGEN AND ALBUMIN CONTENT **XANTHINE OXIDASE**
AND ACTIVE PHOSPHORYLASE ACTIVITY IN NORMAL YOUNG ALBINO RATS.

L23 ANSWER 234 OF 236 FSTA COPYRIGHT 2002 IFIS
TI [The influence of the degree of extraction on the nutritive value of
wheat
flour and possibility of improvement by adding defatted wheat germ.]

L23 ANSWER 235 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
TI EFFICIENCY OF THE **SUPPLEMENTATION** OF THE LIMITING ESSENTIAL AMINO-ACID OF FISH PROTEIN.

L23 ANSWER 236 OF 236 CABA COPYRIGHT 2002 CABI
TI Deodorized water-in-oil emulsion containing fish oil.

=> fil stngui

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	3.92	71.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-1.86

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.00	71.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-1.86

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=> d bib abs l23 2, 80,89,104,130,131,147,150,151,205,207,209,215,229,232

L23 ANSWER 2 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 1
AN 2001:248361 BIOSIS
DN PREV200100248361
TI Properties of tomato powders as **additives** for food fortification and stabilization.
AU Lavelli, Vera (1); Hippeli, Susanne; Dornisch, Kerstin; Peri, Claudio; Elstner, Erich F.
CS (1) Dipartimento di Scienze e Tecnologie Alimentari e Microbiologiche, DISTAM, Universita degli Studi di Milano, Via Celoria 2, I-20133, Milano Italy
SO Journal of Agricultural and Food Chemistry, (April, 2001) Vol. 49, No. 4, pp. 2037-2042. print.

ISSN: 0021-8561.
DT Article
LA English
SL English
AB The antioxidant activities of two freeze-dried tomato powders as **additives** for food fortification and stabilization were studied. The two tomato powders were obtained from the whole fruit and from the pulp after "serum" separation, respectively. The antioxidant activity was studied by measuring (a) the inhibition of the singlet oxygen-catalyzed oxidation of alpha-linolenic acid, in the presence or absence of copper ions, as a model of the oxidative processes occurring in foods, and (b) the inhibition of **xanthine oxidase** (XOD)- and myeloperoxidase (MPO)-catalyzed reactions and copper-induced lipid peroxidation. The partial separation of "serum" decreased the freeze-drying time by 50%. The partially fractionated tomato powder had a 60% lower phenolic content and an 11-fold higher lycopene content than the whole tomato powder, on a dry weight basis. Ascorbic acid was almost completely removed by fractionation. Both the powder obtained from the whole tomato and that obtained from the partially fractionated tomato had antioxidant activity in all the model systems used. Based on these results, we conclude that tomato powders have multifunctional properties, which could address the prevention of oxidative degradations both in foods and in vivo. Therefore, tomato can be regarded as source of food **additives** for fortification and stabilization, even if it is submitted to technological processes that can cause the loss of the more labile hydrophilic antioxidants.

L23 ANSWER 80 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 15
AN 1995:396765 BIOSIS
DN PREV199598411065
TI Dietary nicotinamide **supplementation** increases **xanthine oxidoreductase** activity in the kidney and heart but not liver of obese Zucker rats.
AU Wu, Xiaowen; Wang, Marian (1)
CS (1) Univ. Georgia, Dep. Foods Nutrition, Athens, GA 30602-3622 USA
SO Journal of Nutrition, (1995) Vol. 125, No. 7, pp. 1841-1846.
ISSN: 0022-3166.
DT Article
LA English
AB The conversion of **xanthine dehydrogenase** to **xanthine oxidase** that produces oxygen radicals has been implicated in the ischemic injury to the myocardium and to the kidney. **Xanthine dehydrogenase** uses NAD as the electron acceptor to catalyze a reaction which does not produce any oxygen free radicals and may depress the conversion of **xanthine dehydrogenase** to **xanthine oxidase**. Nicotinamide is the preferred precursor for NAD. This study was conducted to examine the effect of an 18% casein diet **supplemented** with 0.5% nicotinamide on the activity of oxidoreductase and its two enzyme forms, **xanthine dehydrogenase** and **xanthine oxidase**, in kidney, heart and liver of female obese Zucker rats that spontaneously develop glomerulosclerosis, cardiomegaly and fatty liver. Lean litter mates were used as controls. Nicotinamide **supplementation** had no effect on the activities of these enzyme forms in the liver of either obese rats or lean rats. Obese rats fed the nicotinamide **supplemented** diet had higher activities of these enzyme forms in kidneys and hearts than unsupplemented diet fed obese rats, but this difference was not observed

in lean rats. In unsupplemented rats, **xanthine oxidase** activity in the kidney was greater in lean rats than obese rats. Thus, the abnormalities observed in obese rats are unlikely attributable to the **xanthine oxidase**-mediated oxidant stress.

L23 ANSWER 89 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
AN 1995:477380 BIOSIS
DN PREV199598491680
TI Molybdenum cofactor deficiency: Failure to restore sulfite **oxidase** and **xanthine oxidase** activities in vivo with molybdenum **supplementation**.
AU Yoshino, M.; Ishibashi, S.; Koga, Y.; Matsuishi, T.; Kato, H.
CS Dep. Pediatr. Child Health, Kurume Univ., Kurume Japan
SO American Journal of Human Genetics, (1995) Vol. 57, No. 4 SUPPL., pp. A184.
Meeting Info.: 45th Annual Meeting of the American Society of Human Genetics Minneapolis, Minnesota, USA October 24-28, 1995
ISSN: 0002-9297.
DT Conference
LA English

L23 ANSWER 104 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
AN 1993:413463 BIOSIS
DN PREV199396079188
TI **Formulation** of a suspension of Allopurinol for a desensitization schedule.
AU Perez Higuero, F. L.; Nero Vega, E. M.; Oliver Gamo, M. J.; Herreros De Tejada, A.; Ferrari Piquero, J. M.; De La Mata Llord, J.; Blanco Garcia, F.
CS Serv. Reumatol., Hosp. 12 de Octubre, Madrid Spain
SO Farmacia Clinica, (1993) Vol. 10, No. 4, pp. 318, 320-323.
ISSN: 0212-6583.
DT Article
LA Spanish
SL Spanish; English
AB Aim: We describe the preparation and physicochemical characteristics of an Allopurinol suspension produced by the Pharmacy Service at the request of the rheumatology Service, due to the need to carry out a desensitization schedule, with dosages not available on the market. Material and methods: 1. Composition and preparation of the suspension: Carboxymethylcellulose (Panreac cod. 14216) 10 g, Allopurinol 100 mg tablet (Zyloric) 1, Lemon essence 1 ml. bi-distilled water c.s.p. 1000 ml. We prepare the Carboxymethylcellulose gel and then interpose the powder (30 minutes agitation) obtained from grinding the tablet. We then proceed to the labelling: "Allopurinol suspension 0.1 mg/ml; keep in refrigerator; shelf life: one week". 2 physicochemical controls: we take the following measurements: pH, viscosity and dosage error by means of spectrophotometrical technique. Results: pH: 7.21; viscosity: 70.6 c.s.; dosage error: +- 2.5%. At the end of the desensitization schedule no signs of hypersensitization to the drug appear. Conclusions: This master **formulation** has enabled us to have a corrected dosage at our disposal, while it is easy to prepare, stable and of acceptable organoleptic characteristics. The desensitization schedule was effective in allowing us to apply the customary therapy with Allopurinol.

L23 ANSWER 130 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 25
AN 1990:307407 BIOSIS

DN BA90:26374
TI ABSORPTION OF ENZYMATICALLY ACTIVE IODINE-125 LABELED BOVINE MILK **XANTHINE OXIDASE** FED TO RABBITS.
AU RZUCIDLO S J; ZIKAKIS J P
CS ICI PHARMACEUTICALS GROUP, ICI AMERICAS INC., CONCORD PIKE AND MURPHY ROAD, WILMINGTON, DEL. 19897.
SO J AGRIC FOOD CHEM, (1990) 38 (5), 1227-1232.
CODEN: JAFCAU. ISSN: 0021-8561.
FS BA; OLD
LA English
AB Rabbits fed a regular laboratory diet **supplemented** with a high-fat milk containing **xanthine oxidase** (XO) were studied to determine the presence of active XO in the blood. A pilot feeding study, where rabbits consumed a high-fat diet containing **xanthine oxidase**, showed a correlation between dairy food consumption and XO activity in the blood. Antibody to dietary XO was also found. In a second study, rabbits were fed ad libitum the high-fat milk and blood serum samples were tested weekly for XO activity. No elevation in serum XO activity was found. A third study showed that serum XO actvity was increased when rabbits were force fed the high-fat milk. The final study consisted of force feeding 125I-labeled XO to one rabbit to ascertain whether the observed increase in serum XO was due to dietary or endogenous XO. Isoelectric focusing of sera collected from the test rabbit strongly suggested that at least a portion of the serum XO contained the radioactive label. This is the first direct evidence showing the uptake of dietary active XO from the gut.

L23 ANSWER 131 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
AN 1991:178251 BIOSIS
DN BA91:93000
TI PROTECTIVE ACTION OF SELENIUM AND MANGANESE ON **XANTHINE** AND **XANTHINE OXIDASE** INDUCED OXIDATIVE DAMAGE TO CULTURED HEART CELLS.
AU ZHONG G-G; JIANG Y; LI Z-B; ZHANG B-G; ZHANG W-J; YUE G
CS DEP. PHYSIOL., NORMAN BETHUNE UNIV. MED. SCI. 130021.
SO CHIN MED J (ENGL ED), (1990) 103 (9), 735-742.
CODEN: CMJODS. ISSN: 0366-6999.
FS BA; OLD
LA English
AB Ventricular myocytes from neonatal Wistar rats were cultured with 80% Dulbecoo's modified Eagle medium and 20% fetal bovine serum. An appropriate amount of **xanthine** and **xanthine oxidase** was added to the culture medium to increase the content of free radicals in cardiac cells. Variation in action potential and input impedance of cardiac myocytes indicated the oxidative damage to the membrane. The ultrastructure of heart cells, characteristically the myofilaments and mitochondria, was damaged. Electron spin resonance measurements demonstrated that **xanthine** and **xanthine oxidase** elevated the free radical cotnent, while selenium (Se) and manganese (Mn) reduced the free radicals in cultured heart cells. **Supplementation** of 0.173 .mu.g/ml Se and 0.1 .mu.g/ml Mn inot the culture medium separately or simultaneously antagonized the damage induced by **xanthine** and **xanthine oxidase**. The possible mechanism might be the production of superoxide anion free radical leading to free radical damage to cardiac cells. Se and Mn might play a role as scavengers through glutathione peroxidase and superoxide dismutase respectively and thus protect cardiac cells from free radical damage.

L23 ANSWER 147 OF 236 CABA COPYRIGHT 2002 CABI
AN 90:41546 CABA
DN 900438135
TI Oxidized flavour and **xanthine oxidase** in milk
AU Astrup, H. N.
CS Department of Animal Science, Agricultural University of Norway, A s, Norway.
SO Norwegian Journal of Agricultural Sciences, (1989) Vol. 3, No. 2, pp. 163-171. 37 ref.
ISSN: 0801-5341
DT Journal
LA English
AB The relationship between **xanthine oxidase** activity and devlopment of oxidized flavour in milk was investigated. A significant negative corelation (r = -0.52 to -0.55) was shown between these 2 parameters using data obtained in the 1960s. Oxidized flavour and **xanthine oxidase** activity increased with increase in pH and storage temp. of the milk. A negative correlation between the 2 parameters also tended to occur in milk containing various **additives** (reducing compounds, H2O2, pteridylaldehyde and EDTA), in milk from cows at various ages and stage of lactation, and in milk from cows given rapeseed or meal. Reuslts indicated an anti- rather than a pro-oxidant role of **xanthine oxidase** in milk.

L23 ANSWER 150 OF 236 CABA COPYRIGHT 2002 CABI
AN 90:41839 CABA
DN 900438460
TI Immunologic **supplementation** of cow's milk **formulations**
AU Goldman, A. S.
CS Division of Immunology/Allergy, Departments of Pediatrics, Pathology, Microbiology, and Human Biological Chemistry and Genetics, University of Texas Medical Branch, Galveston, TX 77550, USA.
SO Bulletin of the International Dairy Federation, (1989) No. 244, pp. 38-43.
67 ref.
ISSN: 0250-5118
DT Conference Article; Journal
LA English
AB Immunological improvement of cow milk or infant formulae is reviewed. Such improvement will require systematic animal experiments and controlled clinical trials to prove efficacy and ascertain whether risks are minimal.
Potential immunological **supplements** from bovine milk include IgG, **xanthine oxidase**, lactoperoxidase, lactoferrin and lysozyme; potential **supplements** from human milk include bifidus growth factor, antiviral lipids, oligosaccharides-glycoconjugates, lysozyme, lactoferrin, secretory IgA, lymphocytes, neutrophils and macrophages. Potential utilization of the **supplemented** products is also reviewed.

L23 ANSWER 151 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
AN 1988:488855 BIOSIS
DN BA86:120165
TI RESPIRATORY FAILURE CAUSED BY INTRATRACHEAL SALINE **ADDITIVE** EFFECT OF **XANTHINE OXIDASE**.
AU SAUGSTAD O D; HALLMAN M; BECHER G; ODDOY A; LIUM B; LACHMANN B
CS CHILD. HOSP., UNIV. HELSINKI, STENBACKINKATU 11, SF-00290 HELSINKI.

SO BIOL NEONATE, (1988) 54 (2), 61-67.
CODEN: BNEOBV. ISSN: 0006-3126.
FS BA; OLD
LA English
AB Administration of physiological saline or drugs together with saline into the airways is becoming common clinical practice. However, there are few studies on possible side effects. We have studied the effects of saline, saline plus **xanthine oxidase**, and saline plus **xanthine oxidase** plus superoxidase dismutase on lung-thorax compliance and on arterial blood gases in anesthetized, paralyzed guinea pigs, ventilated for 2.5 h. Saline bolus (2-3 ml isotonic saline/kg body weight) into the airways reduced the compliance within 20 min to a mean of 39% of the pretreatment levels, and necessitated an increase in the respirator pressure. Saline plus **xanthine oxidase** decreased the compliance to 16% of the pretreatment levels. The **xanthine oxidase**-induced (but not saline-induced) decrease in lung compliance was relieved by superoxide dismutase. According to the present results **xanthine oxidase** induces a lung injury possibly by production of free oxygen radicals. Superoxide dismutase can be valuable in prevention of free oxygen radical-mediated lung damage. Saline alone can be harmful when applied to the airways. This should be considered in clinical trials and in clinical practice.

L23 ANSWER 205 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
AN 1980:137105 BIOSIS
DN BA69:12101
TI SELENIUM REQUIREMENT FOR ACTIVE **XANTHINE DEHYDROGENASE** FROM CLOSTRIDIUM-ACIDIURICI AND CLOSTRIDIUM-CYLINDROSPORUM.
AU WAGNER R; ANDREESEN J R
CS INST. MIKROBIOL., UNIV. GOTT., GRISEBACHSTR. 8, D-3400 GOTTINGEN, W. GER.
SO ARCH MICROBIOL, (1979) 121 (3), 225-260.
CODEN: AMICCW. ISSN: 0302-8933.
FS BA; OLD
LA English
AB The **xanthine dehydrogenase** of C. acidiurici and C. cylindrosporum was assayed with methyl viologen as acceptor. In C. acidiurici the basal activity level was about 0.3 .mu.mol/min .times. mg of protein. Cells grown on uric acid in the presence of 10-7 M selenite showed a 14-fold increase in **xanthine dehydrogenase** activity, which decreased with higher selenite concentrations (10-5 M). The **supplementation** with 10-7 M molybdate or tungstate was without effect. High concentrations of tungstate decreased the **xanthine dehydrogenase** if selenite was also present. In comparison, high concentrations of molybdate affected only a small decrease in activity level at the optimal concentration for selenite and relieved to some degree the inhibitory effect of 10-5 M selenite. With hypoxanthine and xanthine as substrates for growth, only the addition of selenite was necessary to show a similar increase in **xanthine dehydrogenase** activity. C. acidiurici could be grown in a mineral medium. **Xanthine dehydrogenase** and formate dehydrogenase exhibited the highest level of activity if selenite and tungstate were present in that medium. In C. cylindrosporum the basal activity level of **xanthine dehydrogenase** was about 0.95 .mu.mol/min .times. mg of protein. The addition of 10-7 M selenite to the growth medium increased the activity level about 3-fold, but the highest level (3.7 U[units]/mg) was reached if 10-7 M molybdate was also

added. The presence of tungstate resulted in a decreased enzyme activity.

L23 ANSWER 207 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
AN 1979:174785 BIOSIS
DN BA67:54785
TI BACTERICIDAL ACTIVITY OF A SUPER OXIDE ANION GENERATING SYSTEM A MODEL FOR
THE POLYMORPHONUCLEAR LEUKOCYTE.
AU ROSEN H; KLEBANOFF S J
CS DEP. MED., UNIV. WASH., SEATTLE, WASH. 98195, USA.
SO J EXP MED, (1979) 149 (1), 27-39.
CODEN: JEMEAV. ISSN: 0022-1007.
FS BA; OLD
LA English
AB The acetaldehyde-**xanthine oxidase** system in the presence and absence of myeloperoxidase (MPO) and chloride was employed as a model of the oxygen-dependent antimicrobial systems of the PMN [polymorphonuclear leukocyte]. The unsupplemented **xanthine oxidase** system was bactericidal at relatively high acetaldehyde concentrations. The bactericidal activity was inhibited by superoxide dismutase (SOD), catalase, the hydroxyl radical (OH.cntdot.) scavengers, mannitol and benzoate, the singlet oxygen (1O2) quenchers, azide, histidine and 1,4-diazabicyclo[2,2,2]octane (DABCO) and by the purines, xanthine, hypoxanthine and uric acid. The latter effect may account for the relatively weak bactericidal activity of the **xanthine oxidase** system when purines are employed as substrate. A white, carotenoid-negative mutant strain of Sarcina lutea [Micrococcus luteus] was more susceptible to the acetaldehyde-**xanthine oxidase** system than was the yellow, carotenoid-positive parent strain. Carotenoid pigments are potent 1O2 quenchers. The **xanthine oxidase** system catalyzes the conversion of 2,5-diphenylfuran to cis-dibenzoylethylene, a reaction which can occur by a 1O2 mechanism. This conversion is inhibited by SOD, catalase, azide, histidine, DABCO, xanthine, hypoxanthine and uric acid but is only slightly inhibited by mannitol and benzoate. The addition of MPO and chloride to the acetaldehyde-**xanthine oxidase** system greatly increases bactericidal activity; the minimal effective acetaldehyde concentration is decreased 100-fold and the rate and extent of bacterial killing is increased. The bactericidal activity of the MPO-**supplemented** system is inhibited by catalase, benzoate, azide, DABCO and histidine but not by SOD or mannitol. The acetaldehyde-**xanthine oxidase** system which like phagocytosing PMN generates superoxide .**GRAPHIC**. and hydrogen peroxide, is bactericidal in the presence and absence of MPO and chloride. The MPO-**supplemented** system is considerably more potent; when MPO is absent, bactericidal activity is observed which may be mediated by the interaction of H2O2 and .**GRAPHIC**. to form OH.cntdot. and 1O2.

L23 ANSWER 209 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS DUPLICATE 35
AN 1978:167281 BIOSIS
DN BA65:54281
TI STUDIES ON LYMPHATIC ABSORPTION OF AND THE AVAILABILITY OF RIBOFLAVINE FROM BOVINE MILK **XANTHINE OXIDASE** EC-1.2.3.2.
AU HO C Y; CRANE R T; CLIFFORD A J
CS DEP. NUTR., UNIV. CALIF., DAVIS, CALIF. 95616, USA.
SO J NUTR, (1978) 108 (1), 55-60.
CODEN: JONUAI. ISSN: 0022-3166.

FS BA; OLD
LA English
AB Experiments were conducted to evaluate the absorption of milk **xanthine oxidase** (XO, EC 1.2.3.2) via the lymphatic system, the effect of oral fat on serum XO concentration and the possibility that milk XO might be a source of riboflavin. Lymph was obtained from cannulated thoracic ducts of rats after stomach intubation of a mixture of half cream and half milk (H/H) fortified with XO. The presence of XO in lymph could not be demonstrated by the microcomplement fixation technique, and it was concluded that the enzyme was not absorbed by this route. Orally administered corn oil alone increased serum XO level demonstrating that the increased serum XO obtained with orally XO level demonstrating that the increased serum XO obtained with orally administered H/H, reported earlier, was probably due to the fat rather than the XO in the H/H. The possibility that milk XO might serve as a dietary source of riboflavin was also studied in a growth trial with chicks which were fed a riboflavin-free diet for 2 wk, and were then divided into treatment groups and given dietary **supplements** of riboflavin (2 and 4 mg/kg) or oral or i.p. **supplements** of XO (15 mg/day) for the following 15 days. Dietary **supplements** of XO produced only small increments in growth rate which was equivalent to that which would be obtained with 0.5 mg riboflavin/kg of diet. Orally administered fat increased serum XO. Bovine milk XO was not absorbed in the lymph of the rat and the enzyme was not a good source of riboflavin for the chick.

L23 ANSWER 215 OF 236 BIOSIS COPYRIGHT 2002 BIOSIS
AN 1977:133389 BIOSIS
DN BA63:28253
TI **XANTHINE OXIDASE** ACTIVITY IN RAT SERUM AFTER ADMINISTRATION OF HOMOGENIZED BOVINE CREAM PREPARATION.
AU CLARK A J; PRATT D E; CHAMBERS J V
SO LIFE SCI, (1976) 19 (6), 887-892.
CODEN: LIFSAK. ISSN: 0024-3205.
FS BA; OLD
LA Unavailable
AB Rats were given a single dose of saline, saline **supplemented** with **xanthine oxidase** (XO), half cream and half milk (H/H) and H/H **supplemented** with XO. XO was determined by a spectrophotometric method at 297 nm in serum at 0, 2, 4 and 6 h after administration. The method is rapid, reliable and compares favorably with reported assays. No significant difference was obtained between the 2 saline treatments. The XO activity in serum of animals receiving the H/H increased significantly at 2 h and then decreased. The H/H **supplemented** with XO demonstrated a maximum activity in serum at 4 h and then declined to a value similar to that of the H/H treatment and below the XO level at 0 time. The initial increase in XO activity in serum of rats receiving the H/H treatments may indicate that XO is absorbed in the gastrointestinal tract or that the H/H materials stimulated endogenous XO activity.

L23 ANSWER 229 OF 236 CABA COPYRIGHT 2002 CABI
AN 74:59522 CABA
DN 731412739
TI The effect of forced feeding and of dietary protein level on enzymes associated with digestion, protein and carbohydrate metabolism in geese

AU Nitsan, Z.; Nir, I.; Dror, Y.; Bruckental, I.
CS Division of Poultry Science, Agricultural Research Organization, Volcani Center, Rehovot, Israel.
SO Poultry Science, (1973) Vol. 52, No. 2, pp. 474-481.
ISSN: 0032-5791
DT Journal
LA English
AB Goslings 4 weeks old which had been fed on a mash containing 22% protein were prefattened to 11 weeks and crammed for a further 4 weeks. In experiment 1 the geese were prefattened with a diet containing 16 or 28% protein then 6 geese on each diet were killed 12 to 14 h after their last meal. All remaining geese were force-fed with cooked maize to the end of the experiment. **Xanthine dehydrogenase** activity (XDH) in the liver and arginase activity in the kidney were both increased by 28% protein diet but the increase in XDH was almost abolished after cramming. The pancreas of birds on the 28% protein diet was heavier at 11 weeks of age but the trypsin, chymotrypsin and amylase activities in the pancreas were unaffected. Cramming increased the trypsin and amylase activities but decreased that of chymotrypsin in the pancreas. The higher protein diet during prefattening increased the chymotrypsin activity in the duodenum and jejunum but had no consistent effect on the other enzymic activities in the duodenum, jejunum, ileum and caecum. Cramming decreased the activity of those 3 enzymes along the intestine, trypsin being least affected. Blood urea was increased by the higher protein diet and decreased after cramming while blood uric acid values were unaffected.In experiments 2 and 3 the geese were prefattened with a diet of 16% protein and then divided into 2 groups at 11 weeks of age. Group 1 was force-fed on cooked maize and group 2 force-fed on cooked maize **supplemented** with 10% toasted soya bean meal enriched with 0.26% DL-methionine. The **supplement** caused an increase in body, liver and kidney weights, did not affect liver XDH and slightly increased kidney arginase. Pancreas weight and pancreas enzymes were unaffected. A significant decrease was observed in liver N, RNA and DNA concentrations after cramming, although the total contents were all increased due to the liver enlargement. Addition of the soya bean meal decreased the N and DNA concentrations while that of RNA was unaffected. Liver 6-phosphogluconate dehydrogenase activity was increased 3-fold and that of glucose-6-phosphate dehydrogenase was reduced by half after cramming while neither was affected by the **supplement**.

L23 ANSWER 232 OF 236 CABA COPYRIGHT 2002 CABI
AN 74:60569 CABA
DN 731414169
TI The quality of bread **supplemented** with maize flour and other ingredients
AU Zaharia, T.; Sutescu, P.; Popescu, F.; Gontea, I.
CS Combinatul de Morarit si Panificatie si Centrul Pentru Cercetari de Alimentatie, IMF, Bucharest, Rumania.
SO Igiena, (1973) Vol. 22, No. 1, pp. 11-17.
ISSN: 0019-1620
Secondary Source: Food Science and Technology Abstracts (1973) 5, 8M1022
DT Journal
LA Romanian
SL French; German; English; Russian
AB By replacing 3% of white wheat flour (78% extraction) with a mixture of maize flour, potato flour, lecithin and wheat germ and by adjusting the processing method, a bread was obtained with organoleptic properties (colour, aroma, taste, porosity, etc.) corresponding to consumer requirements and having a longer shelf-life than wheat-with-potato bread.

Its nutritive value, evaluated in male rats from increase in weight, consumption index, protein efficiency and liver **xanthine oxidase** activity, was slightly superior. The nutritional efficiency of the bread considerably increased with the addition of CaCO3, 4 g/kg flour.

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